LEARNING MATERIAL

MATHEMATICS
GRADE 5

(Quarter 2)
LEARNING MATERIAL

(MATHEMATICS)

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(Quarter 2)

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Lesson 29. Giving the Place Value and the Value of a Digit of a Given Decimal Number through Ten Thousandths
(M5NS-IIa-101.2)

Explore and Discover!

Study the chart below.

<table>
<thead>
<tr>
<th>Place Value</th>
<th>Tens</th>
<th>Ones</th>
<th>Decimal point</th>
<th>Tenths</th>
<th>Hundredths</th>
<th>Thousandths</th>
<th>Ten thousandths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Digits</td>
<td>0</td>
<td>•</td>
<td>5</td>
<td>9</td>
<td>8</td>
<td>7</td>
<td></td>
</tr>
<tr>
<td>Value</td>
<td>0</td>
<td>•</td>
<td>0.5</td>
<td>0.09</td>
<td>0.008</td>
<td>0.0007</td>
<td></td>
</tr>
</tbody>
</table>

In 0.5987 the digit 0 is a place holder of ones place. The digit 5 is in tenths place. Its value is 0.5. The digit 9 is in the hundredths place. Its value is 0.09. The digit 8 is in the thousandths place. Its value is 0.008 and digit 7 is in the ten thousandths place, its value is 0.0007. Hence, 0.5987 means five thousand nine hundred eighty-seven ten thousandths.

Here is another example:

1.3984

<table>
<thead>
<tr>
<th>Digit</th>
<th>Place Value</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Ones</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>tenths</td>
<td>0.3</td>
</tr>
<tr>
<td>9</td>
<td>hundredths</td>
<td>0.09</td>
</tr>
<tr>
<td>8</td>
<td>Thousandths</td>
<td>0.008</td>
</tr>
<tr>
<td>4</td>
<td>Ten thousandths</td>
<td>0.0004</td>
</tr>
</tbody>
</table>
Get Moving!

A. Write each in symbols, then give the value and place value of the underlined digit.

<table>
<thead>
<tr>
<th></th>
<th>Symbol</th>
<th>Value</th>
<th>Place Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Fifteen and four hundred ten thousandths</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Twenty-five and two hundred ten thousands</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>nine hundredths</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>One hundred one and one tenth</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Five hundred and three ten thousandths</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>Six and ten hundredths</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7.</td>
<td>Ninety-nine ten thousandths</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>One and three hundred eleven ten thousandths</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9.</td>
<td>Fifty-nine and four hundred ninety-two ten thousandths</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10.</td>
<td>Eight ten thousandths</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
B. Write down the value of the digit 6 in each of these numbers

1. 0.621
2. 36.578
3. 0.4869
4. 3.6291
5. 81.7236
6. 0.046
7. 62.808
8. 132.627
9. 84.0056
10. 31.0362

Keep Moving!

A. Write the place value of the underlined digit.

1. 6.28
2. 0.0028
3. 0.827
4. 21.843
5. 9.375
6. 4.3763
7. 0.7659
8. 2.7854
9. 3.9681
10. 19.0365

B. Give the value of the digit 8 in each number.

1. 29.378
2. 908.176
3. 471.081
4. 57.8012
5. 870.2194
6. 86.047
7. 45.801
8. 567.3278
9. 67.8703
10. 0.2358
C. In 50 678.39241, identify the digit in the ….

  a. Hundreds place ________
  b. Thousandths place ______
  c. Tenths place ________
  d. Ten thousands place ______
  e. Hundredths place _________

Apply Your Skills!

Read and answer the questions that follow:

1. Men’s gymnastics is divided into compulsory and optional events. In 1984, the Nueva Ecija team members won the gold medal. Their score in the optional events was 296.0391. In the compulsory events they scored 259.3127.

   a. Read \textbf{296.0391} and \textbf{259.3127}
   b. Identify the place value of each decimal numbers.

2. Copy all decimals that have 2 in ten thousandths place. Give the place value and value of the digit before the digit in the ten thousandths place.

   a. 6.28         d. 8.2902
   b. 0.0028        e. 9.0092
   c. 4.4689

3. Copy the decimals that have 5 in the ten thousandths place. Give the value and place value of the digit after the decimal point.

   a. 5.5543         d. 0.5555
   b. 19.5555        e. 3.4835
   c. 6.4625
# Get Moving!

## A.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Value</th>
<th>Place Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Fifteen and four hundred ten thousandths</td>
<td>15.410</td>
<td>0.4 tenths</td>
</tr>
<tr>
<td>2. Twenty-five and two hundred ten thousands</td>
<td>25.210</td>
<td>0.2 tenths</td>
</tr>
<tr>
<td>3. Nine hundredths</td>
<td>0.09</td>
<td>0.09 hundredths</td>
</tr>
<tr>
<td>4. One hundred one and one tenth</td>
<td>101.1</td>
<td>0.1 tenths</td>
</tr>
<tr>
<td>5. Five hundred and three ten thousandths</td>
<td>500.003</td>
<td>0.003 thousandths</td>
</tr>
<tr>
<td>6. Six and ten hundredths</td>
<td>6.10</td>
<td>6 ones</td>
</tr>
<tr>
<td>7. Ninety-nine ten thousandths</td>
<td>0.0099</td>
<td>0.0009 Ten thousandths</td>
</tr>
<tr>
<td>8. One and three hundred eleven ten thousandths</td>
<td>1.0311</td>
<td>0.03 hundredths</td>
</tr>
<tr>
<td>9. Fifty-nine and four hundred ninety-two ten thousandths</td>
<td>59.0492</td>
<td>0.0002 Ten thousandths</td>
</tr>
<tr>
<td>10. Eight ten thousandths</td>
<td>0.0008</td>
<td>0.0008 Ten thousandths</td>
</tr>
</tbody>
</table>

## B.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 0.6</td>
<td>6. 0.006</td>
</tr>
<tr>
<td>2. 6</td>
<td>7. 60</td>
</tr>
<tr>
<td>3. 0.006</td>
<td>8. 0.6</td>
</tr>
<tr>
<td>4. 0.6</td>
<td>9. 0.0006</td>
</tr>
<tr>
<td>5. 0.0006</td>
<td>10. 0.006</td>
</tr>
</tbody>
</table>
Keep Moving!

A.
1. Hundredths
2. Thousandths
3. Thousandths
4. Tenths
5. Hundredths
6. Ten thousandths
7. hundredths
8. Ten thousandths
9. thousandths
10. Ten thousandths

B.
1. 0.008
2. 8
3. 0.08
4. 0.8
5. 800
6. 80
7. 0.8
8. 0.0008
9. 0.8
10. 0.0008

C.
1. a.
2. b.
3. c.
4. d.
5. e.

Apply Your Skills

1. a. 296.0391 and 259.3127
   b. 2- hundreds
   9- tens
   6-ones
   0-tenths
   3-hundredths
   1-thousandths
   2-ten thousandths
   7-ten thousandths

2. d. 8.2902
   e. 9.0092

3. b. 19.5555
   c. 6.4625
   d. 0.5555
   e. 3.4835

value
place value
0.5
tenths

Grade 5 Quarter 2 Learner’s Materials
Lesson 30. Reading and Writing Decimal Numbers through Ten Thousandths (M5NS-IIa-102.2)

Explore and Discover!

Mayor Jay Vergara take good care of his body. He eats the right kinds of foods and exercise regularly to maintain proper weights at his age. Mayor Vergara weighs 63.25 kilograms last month. He gains 2.008kg this month. So his present weight now 65.258 kilograms.

What are the numbers in the situation? 63.25kg, 2.008kg and 65.258kg

What kind of number is that? Decimals

How do you read and write decimal numbers?

The decimal 63.25 is read as sixty-three and twenty-five hundredths

The decimal 2.008 is read as two and eight thousandths

The decimal 65.258 is read sixty-five and two hundred fifty-eight thousandths

Decimals are just another way of writing fractions whose denominators are powers of ten and the proper way to read them is the same as reading the corresponding fractions which they are represent.

Here are other examples:

<table>
<thead>
<tr>
<th>Decimal</th>
<th>Fraction</th>
<th>Read as:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.6</td>
<td>$\frac{6}{10}$</td>
<td>Six tenths</td>
</tr>
<tr>
<td>0.12</td>
<td>$\frac{12}{100}$</td>
<td>Twelve hundredths</td>
</tr>
<tr>
<td>0.2568</td>
<td>$\frac{2568}{10000}$</td>
<td>Two thousand five hundred sixty-eight ten thousandths</td>
</tr>
</tbody>
</table>
In the examples “zero” and the decimal point are not read nor write in words anymore.

Get Moving!

A. Read each decimal number orally.

1. 0.059
2. 20.7034
3. 46.340
4. 0.0007
5. 7.8254

B. Draw a line to match each number to its equivalent value in words.

- **3.452**: Three and four thousand five hundred twenty ten thousandths
- **0.3452**: Three thousand four hundred fifty-two ten thousandths
- **34.052**: Thirty four and fifty-two ten thousandths
- **34.0052**: Thirty four and fifty-two thousandths
- **3.4520**: Three and four hundred fifty-two thousandths
C. Write a decimal number for each.

1. two hundred forty-six ten thousandths
   ______________
2. six and forty-eight thousandths
   ______________
3. twenty-six and eight tenths
   ______________
4. two hundred and forty-seven thousandths
   ______________
5. Seven hundred twelve and eleven ten thousandths
   ______________
6. thirty-one ten thousandths
   ______________
7. nine and nine tenths
   ______________
8. six hundredths
   ______________
9. three hundred seventy and four tenths
   ______________
10. ten and two thousand fifty-one ten thousandths
    ______________

Keep Moving!

A. Write in words.

1. 3.06
   _______________________________________

2. 0.8009
   _______________________________________

3. 0.014
   _______________________________________

4. 15.300
   _______________________________________

5. 18.009
   _______________________________________
B. Write down as decimals.

1. \[ \frac{8}{10} \]
2. \[ \frac{5}{1000} \]
3. \[ \frac{2}{100} \]
4. \[ \frac{17}{1000} \]
5. \[ \frac{25}{10000} \]
6. \[ \frac{164}{10000} \]
7. \[ \frac{237}{10000} \]
8. \[ \frac{258}{1000} \]
9. \[ \frac{34}{10000} \]
10. \[ 3 \frac{12}{100} \]

Apply Your Skills!

Read and answer the following:

1. The distance between Cabanatuan East Central School and Plaza Lucero is one and nine thousandths kilometres. Write the distance as a decimal number.

2. The Hong Kong dollar is equivalent to 3.3616 Philippine pesos. Write the number in words.

3. The RECAB dance group performs 4.378 minutes in their final performance in the international competition they joined last year. Write the time in words.

4. I am a decimal number. My thousandths digit is three more than my tenths digit. My ones digit is 3 and so my tenths digits. All the other digits are 0 and I have four decimal places. What number I am?

5. The Rover Scouts of Honorato C. Perez Sr. Memorial Science High School hiked eight and twenty-six thousandths kilometres during the 2015 Division Jamboree held at NEUST Gabaldon. Write this as decimal number.
Answer Key

Get moving!

A. Read each decimal number orally.
   1. 0.059
   2. 20.7034
   3. 46.340
   4. 0.0007
   5. 7.8254

B.

- 3.452
- 0.3452
- 34.052
- 34.0052
- 3.4520

Three and four thousand five hundred twenty
   ten thousandths

Three thousand four hundred fifty-two ten
   thousandths

Thirty four and fifty-two ten thousandths

Thirty four and fifty-two thousandths

Three and four hundred fifty-two thousandths

C.

1. 0.0246
2. 6.048
3. 26.8
4. 200.047
5. 712.0011
6. 0.0031
7. 9.9
8. 0.06
9. 370.4
10. 10.2051

Keep Moving!

A. 1. Three and six hundredths
   2. Eight thousand nine ten thousandths
   3. Fourteen thousandths
   4. Fifteen and three hundred thousandths
   5. Eighteen and nine thousandths
<table>
<thead>
<tr>
<th>B.</th>
<th>1. 0.8</th>
<th>6. 0.0164</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2. 5.014</td>
<td>7. 6.0237</td>
</tr>
<tr>
<td></td>
<td>3. 2.45</td>
<td>8. 15.258</td>
</tr>
<tr>
<td></td>
<td>4. 0.017</td>
<td>9. 34.0010</td>
</tr>
<tr>
<td></td>
<td>5. 25.0069</td>
<td>10. 3.12</td>
</tr>
</tbody>
</table>

### Apply Your Skills

1. 1.009  
2. Three and three thousand six hundred sixteen ten thousandths  
3. Four and three hundred seventy-eight thousandths  
4. 3.3060  
5. 8.026
Lesson 31. Rounding Decimal Numbers to the Nearest Hundredths and Thousandths (M5NS- IIa-103.2)

Explore and Discover!

The NE Cakes and Restaurant reported a gross income of P 8.2173 billion in 2005.

Let us try to round 8.2176 to the nearest hundredths. Follow these steps:

Step 1 Identify the rounding place

8 .2 1 7 3

Rounding place

Step 2 Look at the digit to the right of the rounding place

8 .2 1 7 3

Rounding place digit to the right of rounding place

5 is our reference point for comparison because it is midway between 0 and 10

The number line shows that 7>5.

*If the digit is 5 or greater, add 1 to the digit in the rounding place.

* If the digit is less than 5, do not change the digit in the rounding place.

Step 3 Drop all digits to the right of the rounding place.

8.2173 billion rounded to the nearest hundredths is **8.22 billion**
Now, let us round \( 8.2173 \) billion to the nearest thousandths.

\[ 8.2173 \]

Digit to the right of rounding place

\[ 3 \]

Rounding place

\[ 3 < 5, \text{ do not change the digit in the rounding place.} \]

\( 8.2173 \) billion rounded to the nearest thousandths is \( \boxed{8.217 \text{ billion}} \).

---

**Get Moving!**

A. Round to the nearest thousandths.

1. \( 48.0192 \)  
2. \( 16.9757 \)  
3. \( 15.6142 \)  
4. \( 12.0891 \)  
5. \( 4.6138 \)

6. \( 0.9253 \)  
7. \( 4.0182 \)  
8. \( 1.3055 \)

---

B. Round to the nearest place indicated opposite each number

1. \( 4.0779 \) thousandths  
2. \( 0.84723 \) hundredths  
3. \( 2.5974 \) thousandths  
4. \( 5.1549 \) ones  
5. \( 2.5973 \) tenths

6. \( 24.759 \) hundredths  
7. \( 0.784 \) tenths  
8. \( 32.6891 \) thousandths  
9. \( 3.6987 \) hundredths  
10. \( 24.9692 \) tenths

---

C. Write the letter of the number that rounds off to the given number.

1. \( 3.65 \)  
   a. \( 3.624 \)  
   b. \( 3.580 \)  
   c. \( 3.672 \)  
   d. \( 3.647 \)

2. \( 15.27 \)  
   a. \( 15.225 \)  
   b. \( 15.278 \)  
   c. \( 15.276 \)  
   d. \( 15.273 \)

3. \( 10.85 \)  
   a. \( 10.859 \)  
   b. \( 10.857 \)  
   c. \( 10.851 \)  
   d. \( 10.856 \)

4. \( 32.548 \)  
   a. \( 32.5476 \)  
   b. \( 32.5488 \)  
   c. \( 23.534 \)  
   d. \( 32.6437 \)

5. \( 211.78 \)  
   a. \( 211.789 \)  
   b. \( 211.784 \)  
   c. \( 211.786 \)  
   d. \( 211.7865 \)
Keep Moving!

Draw an arrow to match each number to its nearest hundredth.

<table>
<thead>
<tr>
<th>Decimal</th>
<th>Round to nearest hundredths</th>
<th>Round to the nearest thousandths</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.526</td>
<td>0.51</td>
<td>0.507</td>
</tr>
<tr>
<td>0.523</td>
<td>0.52</td>
<td>0.545</td>
</tr>
<tr>
<td>0.544</td>
<td>0.54</td>
<td>0.581</td>
</tr>
<tr>
<td>0.585</td>
<td>0.58</td>
<td>0.598</td>
</tr>
<tr>
<td>0.562</td>
<td>0.60</td>
<td></td>
</tr>
</tbody>
</table>

B. Complete the table.

<table>
<thead>
<tr>
<th>Decimal</th>
<th>Round to nearest hundredths</th>
<th>Round to the nearest thousandths</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 2.3842</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. 0.56893</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. 2.96425</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. 5.2358</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. 0.86302</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Apply Your Skills!

Answer the following:

1. Mrs. Mangulabnan has a total deposit of P 50 766.25 in BDO Paco Roman. The annual interest at 3% simple interest is P 1 522.9875. Round off interest to the nearest hundredths and thousandths.

2. One centimeter is equivalent to about 0.3937 inch. Round off the given equivalent to the nearest hundredths.

3. Hon. Ria Vergara donated P 1.239 billion to the typhoon Lando victim last year. Round the given amount to the nearest hundredths.

4. The total land area of Imelda Integrated School is 8 146.0132 sq. m. Round the land area to the nearest thousandths.
Get Moving!

A. 1. 48.019  6. 0.925  
   2. 16.976  7. 4.018  
   3. 15.614  8. 1.306  
   4. 12.089  9. 8.175  
   5. 4.614   10. 1.010

B. 1. 4.078   6. 24.76 C. 1. D  
   2. 0.85    7. 0.8    2. D  
   3. 2.597   8. 32.689 3. C  
   4. 5       9. 3.70   4. A  
   5. 2.6     10. 25.0  5. B

Keep moving!

Draw an arrow to match each number to its nearest hundredth.

### Keep moving!

B.

<table>
<thead>
<tr>
<th>Decimal</th>
<th>Round to nearest hundredths</th>
<th>Round to the nearest thousandths</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 2.3842</td>
<td>2.38</td>
<td>2.384</td>
</tr>
<tr>
<td>2. 0.56893</td>
<td>0.57</td>
<td>0.569</td>
</tr>
<tr>
<td>3. 2.96425</td>
<td>2.96</td>
<td>2.964</td>
</tr>
<tr>
<td>4. 5.2358</td>
<td>5.24</td>
<td>5.236</td>
</tr>
<tr>
<td>5. 0.86302</td>
<td>0.86</td>
<td>0.863</td>
</tr>
</tbody>
</table>
Apply Your Skills

1. Hundredths -- P 1522.99 thousandths --- P 1522.988
2. 0.39
3. P 1.24 billion
4. 8 146.013 sq. m
Lesson 32: Comparing and Arranging Decimal Numbers (M5NS-IIa-104.2)

Explore and Discover!

How do you compare decimal numbers?

There are three ways to compare decimal numbers. The first one is by using a number line for small scale or difference between numbers. Second is using place value chart for numbers that cannot be represented in a number line. The third way is by adding zero to make the digits of decimal numbers evenly.

Study the example below.

Start at the left side.

The number line starts with 12.326. It is the smallest value in the set which is located at the leftmost part of the number line.

The number line ends with 12.344. It is the greatest value in the set which is located at the rightmost part of the number line.

In the number line we can clearly locate that 12.329 is at the left side while 12.341 is located at the right side.

So, 12.341 is greater than 12.329. We can write it in symbol as

12.329 < 12.341 or 12.341 > 12.329
b. Study another set of example using the place value chart.

Which is greater, 12.789 or 12.765?

<table>
<thead>
<tr>
<th>Place Value</th>
<th>Value</th>
<th>Tens</th>
<th>Ones</th>
<th>Decimal Point</th>
<th>Tenths</th>
<th>Hundredths</th>
<th>Thousandths</th>
</tr>
</thead>
<tbody>
<tr>
<td>Value</td>
<td>10</td>
<td>1</td>
<td></td>
<td>1/10</td>
<td>1/100</td>
<td>1/1000</td>
<td></td>
</tr>
<tr>
<td>Digits</td>
<td>1</td>
<td>2</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Digits</td>
<td>1</td>
<td>2</td>
<td>7</td>
<td>6</td>
<td>5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

12.789 > 12.765

c. Let’s try another example using different strategy. We can add terminal zeros (0) so there is equal number of decimal places. Let’s compare it using the table below.

<table>
<thead>
<tr>
<th>Original Number</th>
<th>New Number Formed by Adding 0</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 . 2</td>
<td>0 . 2 0 0</td>
</tr>
<tr>
<td>0 . 1 9 8</td>
<td>0 . 1 9 8</td>
</tr>
</tbody>
</table>

The given decimals have the same number of digits. In this example, 0.200 is greater than 0.198. In symbol, we can write this as 0.200 > 0.198.
Ordering Decimals

Ordering decimals can be tricky. Because often we look at 0.42 and 0.402 and say that 0.402 must be bigger because there are more digits. But no!

We can use this method to see which decimals are bigger:

Set up a table with the decimal point in the same place for each number.
Put in each number.
Fill in the empty squares with zeros.
Compare using the first column on the left.

Example 1: Put the following decimals in ascending order: (least to greatest)

1.506, 1.56, 0.8

In a table they look like this:

<table>
<thead>
<tr>
<th>Units</th>
<th>Decimal Point</th>
<th>Tenths</th>
<th>Hundredths</th>
<th>Thousandths</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.</td>
<td>5</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>1</td>
<td>.</td>
<td>5</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>.</td>
<td>8</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Fill in the empty squares with zeros:

<table>
<thead>
<tr>
<th>Units</th>
<th>Decimal Point</th>
<th>Tenths</th>
<th>Hundredths</th>
<th>Thousandths</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.</td>
<td>5</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>1</td>
<td>.</td>
<td>5</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>.</td>
<td>8</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Compare using the first column (Units)

Answer: 0.8, 1.506, 1.56
Example 2: Put the following decimals in **DESCENDING** order: (greatest to least)

0.402, 0.42, 0.375, 1.2, 0.85

In a table they look like this:

<table>
<thead>
<tr>
<th>Units</th>
<th>Decimal Point</th>
<th>Tenths</th>
<th>Hundredths</th>
<th>Thousandths</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>.</td>
<td>4</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>0</td>
<td>.</td>
<td>4</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>.</td>
<td>3</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>1</td>
<td>.</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>.</td>
<td>8</td>
<td>5</td>
<td></td>
</tr>
</tbody>
</table>

**Fill in the empty squares with zeros:**

<table>
<thead>
<tr>
<th>Units</th>
<th>Decimal Point</th>
<th>Tenths</th>
<th>Hundredths</th>
<th>Thousandths</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>.</td>
<td>4</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>0</td>
<td>.</td>
<td>4</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>.</td>
<td>3</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>1</td>
<td>.</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>0</td>
<td>.</td>
<td>8</td>
<td>5</td>
<td>0</td>
</tr>
</tbody>
</table>

**Compare using the first column (Units):**

**Answer:** 1.2, 0.85, 0.42, 0.402, 0.375
A. Compare the following. Write >, <, or = to make the sentence true.

1. 1.396 □ 0.95
2. 0.29 □ 0.3
3. 6.5 □ 6.500
4. 7.4 □ 7.049
5. 27.5 □ 27.492
6. 2.098 □ 2.904
7. 0.30 □ 0.300
8. 8.10 □ 8.1
9. 2.35 □ 2.53
10. 0.1 □ 0.99
11. 4.07 □ 4.017
12. 10.07 □ 10.067
13. 1.0 □ 1.01
14. 2 □ 2.00
15. 3.607 □ 3.670

B. Order the following decimals from least to greatest.

1. 3.21, 3.021, 3.12, 3.121
2. 1.3, 1.309, 1.03, 1.39
3. 0.09, 0.012, 0.0089, 0.0189
4. 4.01, 4.0011, 4.011, 4.101
5. 5.5, 5.059, 5.0090, 5.05
6. 1.7, 0.9, 1.07, 1.9, 0.7
7. 2.0342, 2.3042, 2.3104, 2.4
8. 5, 5.012, 5.1, 0.502
9. 0.6, 0.6065, 0.6059, 0.6061
10. 12.9, 12.09, 12.9100, 12.9150
A. Write <, >, or = on the blank to make the sentence true.

1. 0.1114 ____ 0.2202
2. 0.1090 ____ 0.1009
3. 0.999 ____ 0.1000
4. 4.8934 ____ 4.8943
5. 0.6390 ____ 0.639
6. 0.55 ____ 0.055
7. 0.7894 ____ 0.7658
8. 0.3937 ____ 0.3198
9. 0.0120 ____ 0.012
10. 16.8930 ____ 16.893
11. 0.7985 ____ 0.7895
12. 12.1 ____ 12.0100
13. 40.04 ____ 40.041
14. 8.627 ____ 8.649
15. 0.213 ____ 0.0213

B. Order numbers from greatest to least.

1. 3.756  37.56  375.6  0.3756
2. 0.2468  0.2486  0.2648  0.2846
3. 11.010  11.0011  11.0110  1.1101
4. 2313.2  23.132  2.3132  231.32
5. 555.555  55.5555  5.5555  5555.55
6. 0.481  0.38  0.256  0.7349
7. 2.461  2.3392  2.6789  2.7666
8. 0.93  6.87  5.241  6.786
10. 905.928  95.7654  5.8642  5.6248
Apply Your Skills

A. Read and solve the following.

1. Dayron and Emman are both honor pupils in Grade V at Imelda Integrated School. For the first quarter, Dayron’s average is 93.1 while Emman’s average is 93.095. Who topped the first quarter?

2. Mother is going to Premiere Hospital for a regular check up and she took you with her. While riding the jeepney, you noticed that mother received P0.25 change while the one in front of you was given P0.50. Whose change is smaller?

B. Study the chart below and do the following

<table>
<thead>
<tr>
<th>Name of Pupils</th>
<th>Grades</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sandra</td>
<td>90.125%</td>
<td>40.75 kg</td>
</tr>
<tr>
<td>Vince</td>
<td>90.20%</td>
<td>40.1 kg</td>
</tr>
<tr>
<td>Xyle</td>
<td>90.3%</td>
<td>40.05 kg</td>
</tr>
<tr>
<td>Carla</td>
<td>90.015%</td>
<td>40.3 kg</td>
</tr>
<tr>
<td>Neil</td>
<td>90.025%</td>
<td>40.5kg</td>
</tr>
</tbody>
</table>

a. Arrange the pupils from heaviest to the lightest
b. Rank the pupils according to their grades from the highest to the lowest
Answer Key

Get Moving!

A.
1. >  
2. <  
3. =  
4. >  
5. >  
6. <  
7. =  
8. =  
9. <  
10. <  
11. >  
12. >  
13. <  
14. =  
15. <

B.
1. 3.021, 3.12, 3.121, 3.21
2. 1.03, 1.3, 1.309, 1.39
3. 0.0089, 0.012, 0.0189, 0.09
4. 4.0011, 4.01, 4.011, 4.101
5. 5.0090, 5.05, 5.059, 5.5
6. 0.7, 0.9, 1.07, 1.7, 1.9
7. 2.0342, 2.3042, 2.3104, 2.4
8. 0.502, 5, 5.012, 5.1
9. 0.6, 0.6059, 0.6061, 0.6065
10. 12.09, 12.9, 12.9100, 12.9150

Keep Moving!

A. 1. <  
2. >  
3. >  
4. <  
5. =  
6. >  
7. >  
8. >  
9. =  
10. =  
11. >  
12. >  
13. <  
14. <  
15. >

B. 1. 375.6 , 37.56 , 3.756, 0.3756
2. 0.2846, 0.2648, 0.2486, 0.2468
3. 11.0110 , 11.010, 11.0011, 1.1101
4. 2313.2, 231.32, 23.132, 2.3132
5. 5555.55, 555.555, 55.5555, 5.5555
6. 0.7349, 0.481, 0.38, 0.256
7. 2.7666, 2.6789 , 2.461 , 2.3392,
8. 6.87, 6.786, 5.241 , 0.93
9. 262.351, 62.1254, 26.5321,26.2351
10. 905.928, 95.7654 , 5.8642, 5.6248

Grade 5 Quarter 2 Learner’s Materials
Apply Your Skills

A. 1. Dayron
   2. Mother

B. a. heaviest to lightest
   Sandra
   Neil
   Carla
   Vince
   Xyle

b. rank-highest to lowest
   Xyle
   Vince
   Sandra
   Neil
   Carla
Lesson 33: Visualizing Addition and Subtraction of Decimals  
(M5NS- IIb-105)

Explore and Discover!

On Saturday, Lisa spent 0.28 hours watering the plants and 0.65 hours cleaning the yard. How much time did she spend for both activities?

How can we solve the problem?

Find: \(0.58 + 0.65\)

Use the model below. Each grid represents 0.01.

\[
0.28 \quad + \quad 0.65 \quad = \quad 0.93
\]

Ans: Lisa spent 0.93 hours for both activities

Let’s try another example.

Tina had 0.5 m of cloth. She used 0.32 for her 4 scarves. How many meters of cloth were left?

Use a number line

\[
0.5m \quad - \quad 0.32m \quad = \quad 0.18m
\]

Ans. Tina had 0.18 m of cloth left
A. Write the correct equation for each of the following numbers represented by the shaded region.

1. 

\[
\begin{array}{c}
\text{______} + \text{______} = \text{______}
\end{array}
\]

2. 

\[
\begin{array}{c}
\text{______} - \text{______} = \text{______}
\end{array}
\]

3. 

\[
\begin{array}{c}
\text{______} - \text{______} = \text{______}
\end{array}
\]
A. Using number line, show the sum/difference of the given decimals.
   1. 0.52 + 0.3
   2. 0.15 + 0.5 + 0.22
   3. 0.4 - 0.34
   4. 0.78 - 0.5
   5. 0.65 + 0.11

B. Use grid to show the sum and difference of the following decimals.
   1. 0.34 + 0.11
   2. 0.8 - 0.57
   3. 0.11 + 0.49 + 0.2
   4. 0.98 - 0.4
   5. 0.38 + 0.56 - 0.24

Apply Your Skills!

A. Using an illustration, give the answer of the following situations:
   1. Every morning Jenny and Julia jog at Freedom Park. Jenny can jog 0.5 kilometer while Julia can jog 0.45km in a day. How many kilometers can they jog together in a day? (number line)
   2. A triangular table is 0.2m, 0.25 and 0.2m. Find its perimeter. (grid)
Answer Key

Get Moving!

A. 1. $0.44 + 0.10 = 0.54$
   2. $0.6 - 0.3 = 0.3$
   3. $0.8 - 0.68 = 0.12$

Keep Moving!

A. 1.

```
0.52
```

2.

```
0.15
```

3.

```
0.4
```

4.

```
0.78
```

5.

```
0.65
```

Grade 5 Quarter 2 Learner’s Materials
4.

\[
\begin{array}{c}
\begin{array}{c}
\text{Grid 1} \\
\text{Grid 2} \\
\text{Grid 3}
\end{array}
\end{array}
\]

\[
= \begin{array}{c}
\begin{array}{c}
\text{Grid 4}
\end{array}
\end{array}
\]

5.

\[
\begin{array}{c}
\begin{array}{c}
\text{Grid 5} \\
\text{Grid 6}
\end{array}
\end{array}
\]

\[
= \begin{array}{c}
\begin{array}{c}
\text{Grid 7}
\end{array}
\end{array}
\]\
Apply Your Skills!

1. 

\[ 0.5\text{km} \quad 0.45\text{km} \]

2. 

\[ + \quad + \quad = \]
Lesson 34. Adding and Subtracting Decimal Numbers through Thousandths Without and With Regrouping (M5NS- IIb-106.1)

Explore and Discover!

Mr. Castro acquired a lot in a remote area in Sta.Rosa, Nueva Ecija to be planted by different kinds of fruit bearing trees. He already acquired 105.652 square meters in Barangay Lourdes and 91.246 square meters of lands in Brgy. La Fuente. If Mr. Castro needs 398.166 square meters, what part of land area does he need to acquire?

Step 1:

How do we solve the problem? To solve the problem, we must need to add the first two given data, 105.692 square meters of land in Barangay Lourdes and 91.246 square meters of land in Barangay La Fuente. The number sentence is 105.652 sq. m + 98.276 sq. m = N.

Without Regrouping

<table>
<thead>
<tr>
<th>Hundreds</th>
<th>Tens</th>
<th>Ones</th>
<th>Decimal Point</th>
<th>Tenths</th>
<th>Hundredths</th>
<th>Thousandths</th>
</tr>
</thead>
<tbody>
<tr>
<td>105</td>
<td>6</td>
<td>5</td>
<td>6</td>
<td>2</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td>+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>0</td>
<td>5</td>
<td>6</td>
<td>2</td>
<td>5</td>
<td>2</td>
</tr>
</tbody>
</table>

Sum

Step 2: After getting the sum, we may now subtract the sum to the land area need to acquire to know the part of land Mr. Castro still needs to acquire. Here’s the number sentence to use: 398.166 sq. m – 196.898 sq. m = N.
With Regrouping

Here are other examples:

1. Find: 24.231 + 16.11 + 5.241 = N
2. Find: 0.879 – 0.3472 = N

Solution:

<table>
<thead>
<tr>
<th>Hundreds</th>
<th>Tens</th>
<th>Ones</th>
<th>Decimal Points</th>
<th>Tenths</th>
<th>Hundredths</th>
<th>Thousandths</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>18</td>
<td>7</td>
<td>10</td>
<td>15</td>
<td>16</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>9</td>
<td>8</td>
<td>1</td>
<td>6</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>9</td>
<td>6</td>
<td>8</td>
<td>9</td>
<td>8</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 9 5 2 6 8</td>
</tr>
</tbody>
</table>

Remember:

To add/subtract decimals:

1. Write the decimals such that the decimal points are in column.
2. Start adding/subtracting from the right.
3. Annex 0’s to make the number of digits the same
4. Rename and regroup when necessary.
A. Find the sum of the following.

1. $3.76 + 4.356 = 8.116$
2. $23.347 + 8.92 = 32.267$
3. $37.786 + 2.632 = 40.418$
4. $4.762 + 1.69 = 6.451$
5. $5.703 + 17.74 = 23.443$
6. $87.652 + 51.764 = 139.416$
7. $0.915 + 0.251 = 1.166$
8. $92.657 + 24.573 = 117.230$
9. $15.421 + 37.88 = 53.301$
10. $0.76 + 0.118 = 0.878$

B. Find the difference.

1. $93.152 - 29.184 = 63.968$
2. $61.41 - 37.532 = 23.878$
3. $57.31 - 46.653 = 10.657$
4. $154.76 - 85.493 = 69.267$
5. $380.205 - 278.398 = 101.807$
A. Write in column then compute.

1. 36.25 + 18.9 + 15.6 = N
2. 89.231 + 29.341 + 14.65 = N
3. 62.5 - 3.96 = N
4. 67.3 - 25.674
5. 98.56 + 13.2 - 65.429 = N

B. Solve the problems.

1. The sum of 23.11, 97.4 and 68.3 is ______
2. What is the answer when 135.45 is added to 15.398?
3. Add 82.839 to the difference of 189 and 158.84.
4. Add the difference of 25.1 and 16.824 to the sum of 43.256 and 18.28.
5. What is the answer when 612.34 is added to the difference of 65.7 and 47.892?
A. Read, analyze and solve.

1. Alex traveled 41.3 kilometers on Monday and 53.75 kilometers on Tuesday. How many kilometers did he travel in two days?

2. In a midnight sale at NE Pacific Mall, a radio cassette player was sold at P 1 449.95. If its regular price was P 1 950.50, how much less was the sale price?

3. Anna bought a bunch of flowers for P 125.50. If she gave a P 100 bill and P 50 bill, how much was her change?

4. Nilda’s house is 0.8 km to Cabanatuan Terminal. If she rides 0.65km and walks the rest of the distance, how far does she walk in going to terminal?

5. Mother went to Sangitan market. She bought 2.35 kg of pork, 3.75 kg of chicken, 1.075 kg of beef, and 1.005 kg of liver. How many kilograms of meat did Mother buy in all?
Answer Key!

Get moving!

A.  1. 8.116  6. 139.416  
    2. 32.267  
    3. 40.418  
    4. 6.452  
    5. 23.443  
   
B.  1. 63.968  
    2. 23.878  
    3. 10.657  
    4. 69.267  
    5. 101.807  

Keep Moving!

A.  1. 70.75  
    2. 133.222  
    3. 58.54  
    4. 41.626  
    5. 46.331  
   
B.  1. 188.81  
    2. 150.848  
    3. 112.999  
    4. 295.712  
    5. 630.148  

Apply Your Skills!

1.  95.05 km  
2.  P 500.55  
3.  P 24.50  
4.  0.15 km  
5.  8.18 kg
Lesson 1: Giving the Place Value and the Value of a Digit of a Given Decimal Number through Ten Thousandths
(M5NS- IIa-101.2)

Answer Key:

Get Moving!

A.

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Value</th>
<th>Place Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>15.410</td>
<td>0.4</td>
</tr>
<tr>
<td>2.</td>
<td>25.210</td>
<td>0.2</td>
</tr>
<tr>
<td>3.</td>
<td>0.09</td>
<td>0.09</td>
</tr>
<tr>
<td>4.</td>
<td>101.1</td>
<td>0.1</td>
</tr>
<tr>
<td>5.</td>
<td>500.003</td>
<td>0.003</td>
</tr>
<tr>
<td>6.</td>
<td>6.10</td>
<td>6</td>
</tr>
<tr>
<td>7.</td>
<td>0.0099</td>
<td>0.0009</td>
</tr>
<tr>
<td>8.</td>
<td>1.0311</td>
<td>0.03</td>
</tr>
<tr>
<td>9.</td>
<td>59.0492</td>
<td>0.0002</td>
</tr>
<tr>
<td>10.</td>
<td>0.0008</td>
<td>0.0008</td>
</tr>
</tbody>
</table>

B.

1. 0.6
2. 6
3. 0.006
4. 0.6
5. 0.0006
6. 0.006
7. 60
8. 0.6
9. 0.0006
10. 0.006
Keep Moving!

A.
1. Hundredths
2. Thousandths
3. Thousandths
4. Tenths
5. Hundredths
6. Ten thousandths
7. Hundredths
8. Ten thousandths
9. Thousandths
10. Ten thousandths

B.
<table>
<thead>
<tr>
<th></th>
<th>1. 0.008</th>
<th>2. 8</th>
<th>3. 0.08</th>
<th>4. 0.8</th>
<th>5. 800</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>6. 80</td>
<td>7. 0.8</td>
<td>8. 0.008</td>
<td>9. 0.8</td>
<td>10. 0.008</td>
</tr>
</tbody>
</table>

C.
<table>
<thead>
<tr>
<th></th>
<th>a. 6</th>
<th>b. 2</th>
<th>c. 3</th>
<th>d. 4</th>
<th>e. 9</th>
</tr>
</thead>
</table>

Apply Your Skills

1. a. 296.0391 and 259.3127
   b. 2- hundreds 2- hundreds
      9- tens 5- tens
      6-ones 9-ones
      0-tenths 3-tenths
      3-hundredths 1-hundredths
      9-thousandths 2-thousandths
      1-ten thousandths 7-ten thousandths

d. 8.2902 value- 0 place value-thousandths
2. e. 9.0092 value-0.009 place value- thousandths

3. b. 19.5555 0.5 tenths
c. 6.4625 0.4 tenths
d. 0.5555 0.5 tenths
e. 3.4835 0.4
Lesson 2: Reading and Writing Decimal Numbers through Ten Thousandths (M5NS- IIa-102.2)

Answer Key

Get moving!

A. Read each decimal number orally.
   1. 0.059
   2. 20.7034
   3. 46340
   4. 0.0007
   5. 7.8254

B. Three and four thousand five hundred twenty ten thousandths
   3.452
   Three thousand four hundred fifty-two ten thousandths
   0.3452
   Thirty four and fifty-two ten thousandths
   34.052
   Thirty four and fifty-two thousandths
   34.0052
   Three and four hundred fifty-two thousandths
   3.4520

C. Keep Moving!
   1. 0.0246
   2. 6.048
   3. 26.8
   4. 200.047
   5. 712.0011
   6. 0.0031
   7. 9.9
   8. 0.06
   9. 370.4
   10. 10.2051

A. 1. Three and six hundredths
    2. Eight thousand nine ten thousandths
    3. Fourteen thousandths
    4. Fifteen and three hundred thousandths
    5. Eighteen and nine thousandths
<p>| | | | | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>0.8</td>
<td>6</td>
<td>0.0164</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>5.014</td>
<td>7</td>
<td>6.0237</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>2.45</td>
<td>8</td>
<td>15.258</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>0.017</td>
<td>9</td>
<td>34.0010</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>25.0069</td>
<td>10</td>
<td>3.12</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Apply Your Skills**

1. 1.009
2. Three and three thousand six hundred sixteen ten thousandths
3. Four and three hundred seventy-eight thousandths
4. 3.3060
5. 8.026
Lesson 3. Rounding Decimal Numbers to the Nearest Hundredths and Thousandths (M5NS-IIa-103.2)

Answer Key

Get Moving!

A. 1. 48.019  6. 0.925
2. 16.976  7. 4.018
3. 15.614  8. 1.306
4. 12.089  9. 8.175
5. 4.614  10. 1.010

B. 1. 4.078  6. 24.76  C. 1. D
2. 0.85  7. 0.8  2. D
3. 2.597  8. 32.689  3. C
4. 5  9. 3.70  4. A
5. 2.6  10. 25.0  5. B

Keep moving!

Draw an arrow to match each number to its nearest hundredth.
### B.

<table>
<thead>
<tr>
<th>Decimal</th>
<th>Round to nearest hundredths</th>
<th>Round to the nearest thousandths</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 2.3842</td>
<td>2.38</td>
<td>2.384</td>
</tr>
<tr>
<td>2. 0.56893</td>
<td>0.57</td>
<td>0.569</td>
</tr>
<tr>
<td>3. 2.96425</td>
<td>2.96</td>
<td>2.964</td>
</tr>
<tr>
<td>4. 5.2358</td>
<td>5.24</td>
<td>5.236</td>
</tr>
<tr>
<td>5. 0.86302</td>
<td>0.86</td>
<td>0.863</td>
</tr>
</tbody>
</table>

### Apply Your Skills

1. Hundredths -- P 1522.99 thousandths ---P 1522.988
2. 0.39
3. P 1.24 billion
4. 8 146.013 sq. m
Lesson 4: Comparing and Arranging Decimal Numbers
(M5NS- IIa-104.2)

Answer Key

Get Moving!

A.
1. > 6. < 11. >
2. < 7. = 12. >
3. = 8. = 13. <
5. > 10. < 15. <

B.
1. 3.021, 3.12, 3.121, 3.21 6. 0.7, 0.9, 1.07, 1.7, 1.9
2. 1.03, 1.3, 1.309, 1.39 7. 2.0342, 2.3042, 2.3104, 2.4
3. 0.0089, 0.012, 0.0189, 0.09 8. 0.502, 5, 5.012, 5.1
4. 4.0011, 4.01, 4.011, 4.101 9. 0.6, 0.6059, 0.6061, 0.6065
5. 5.0090, 5.05, 5.059, 5.5 10. 12.09, 12.9, 12.9100, 12.9150

Keep Moving!

A. 1. < 6. > 11. >
2. > 7. > 12. >
3. > 8. > 13. <
5. = 10. = 15. >

B. 1. 375.6, 37.56, 3.756, 0.3756 6. 0.7349, 0.481, 0.38, 0.256
2. 0.2846, 0.2648, 0.2486, 0.2468 7. 2.7666, 2.6789, 2.461, 2.392,
3. 11.0110, 11.010, 11.0011, 1.1101 8. 6.87, 6.786, 5.241, 0.93
5. 5555.55, 555.555, 55.5555, 5.5555 10. 905.928, 95.7654, 5.8642, 5.6248
Apply Your Skills

A. 1. Dayron  
   2. Mother

B. a. heaviest to lightest
   Sandra  
   Neil  
   Carla  
   Vince  
   Xyle

b. rank-highest to lowest
   Xyle  
   Vince  
   Sandra  
   Neil  
   Carla
Lesson 5: Visualizing Addition and Subtraction of Decimals  
(M5NS- IIb-105)

Answer Key
Get Moving!

A. 1. \(0.44 + 0.10 = 0.54\)
2. \(0.6 - 0.3 = 0.3\)
3. \(0.8 - 0.68 = 0.12\)

Keep Moving!

A. 1.

\[ \begin{array}{c}
0.52 \\
0.3
\end{array} \]

2.

\[ \begin{array}{c}
0.15 \\
0.5 \\
0.22
\end{array} \]

3.

\[ \begin{array}{c}
0.4 \\
0.34
\end{array} \]

4.

\[ \begin{array}{c}
0.78 \\
0.5
\end{array} \]

5.

\[ \begin{array}{c}
0.65 \\
0.11
\end{array} \]
1. 

2.
4.
Apply Your Skills!

1. 
   
2. 
   
   + 
   
   + 

---

0.5km

0.45km

0.05    0.10    0.15    0.20   0.25   0.30   0.35   0.40   0.45   0.50   0.55   0.60   0.65   0.70    0.75   0.80   0.85  0.90

---

0  0.05  0.10  0.15  0.20  0.25  0.30  0.35  0.40  0.45  0.50  0.55  0.60  0.65  0.70  0.75  0.80  0.85  0.90  0.95
Lesson 6: Adding and Subtracting Decimal Numbers through Thousandths Without and With Regrouping (M5NS- IIb-106.1)

Answer Key!

Get moving!

A.

1. 8.116
2. 3.267
3. 40.418
4. 6.452
5. 23.443

B.

6. 139.416
7. 1.166
8. 117.230
9. 53.301
10. 0.878


B.

1. 63.968
2. 23.878
3. 10.657
4. 69.267
5. 101.807

Keep Moving!

A.

1. 70.75
2. 133.222
3. 58.54
4. 41.626
5. 46.331

B.

1. 188.81
2. 150.848
3. 112.999
4. 295.712
5. 630.148

Apply Your Skills!

1. 95.05 km
2. P 500.55
3. P 24.50
4. 0.15 km
5. 8.18 kg

GLADY P. CASTRO
Master Teacher I
Imelda Integrated School
CONTENTS

1. Week 3 and 4
   Lesson 11:
   Lesson 12:
   Lesson 13:
   Lesson 14:
   Lesson 15:
   Lesson 16:
Lesson 35: Estimating the Sum or Difference of Decimal Numbers with Reasonable Results
M6NS-IIC-107

Explore and Discover

Marlon ran a total of 8.25 kilometers for her practice. Yesterday, he ran 5.75 kilometers. What is the estimated kilometers did he ran in two days?

Solution: 8.25 + 5.75
In estimating decimals we use rounding method.

<table>
<thead>
<tr>
<th>Step 1. Round off the following to the whole numbers.</th>
<th>Step 2. Add the numbers that you round off.</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.25 $\rightarrow$ 8</td>
<td>8.25 $\rightarrow$ 8</td>
</tr>
<tr>
<td>+ 5.75 $\rightarrow$ 6</td>
<td>+ 5.75 $\rightarrow$ 6</td>
</tr>
<tr>
<td></td>
<td>14</td>
</tr>
</tbody>
</table>

Answer: 14 kilometers is the estimated kilometers did he ran in two days.

A teacher droves 32.65 km to one province and 23.76 km to a second province. How much farther is the first province than the second province?

Solution: 32.65-23.76

<table>
<thead>
<tr>
<th>Step 1. Round off the following to the whole.</th>
<th>Step 2. Add the numbers that you round off.</th>
</tr>
</thead>
<tbody>
<tr>
<td>32.65 $\rightarrow$ 33</td>
<td>32.65 $\rightarrow$ 33</td>
</tr>
<tr>
<td>- 23.76 $\rightarrow$ 24</td>
<td>- 23.76 $\rightarrow$ 24</td>
</tr>
<tr>
<td></td>
<td>2 13</td>
</tr>
</tbody>
</table>

Grade 5 Quarter 2 Learner’s Materials
**Answer:** 9 kilometers is the distance between the first province and second province.

**Remember:**
To estimate sum or differences of decimals round off the numbers to the whole numbers then add or subtract.

**Get Moving!**

A. Find the estimated sum of the following numbers.
   1. \(13.75 + 9.63 + 12.78\)
   2. \(8.05 + 7.93 + 1.62\)
   3. \(109.30 + 19.08 + 31.30\)
   4. \(0.27 + 0.45 + 11.75\)
   5. \(8.752 + 12.765 + 43.56\)

B. Using the rounding off method, find the rough estimated difference of the given decimals.
   1. \(653.20 - 671.60\)
   2. \(56.45 - 23.78\)
   3. \(19.43 - 9.53\)
   4. \(9.85 - 6.27\)
   5. \(23.63 - 19.79\)

**Keep Moving!**
A. Round to the greatest place value and estimate each sum.
   1. 3285.123 + 4317.401
   2. 3980.30 + 4536.23
   3. 26.5 + 18.23 + 9.55
   4. 14.15 + 9.79 + 3.78
   5. 12.4 + 14.8 + 21.53

B. Round to the whole number and estimate each difference.
   1. 663.23 – 321.25
   2. 609.9 – 328.065
   3. 976.4 – 573.19
   4. 8512.24 – 4592.265
   5. 9634.67 – 2387.809

Apply Your Skills!

Estimate the answer to each problem.

1. Maria bought a bag for Php.123.50 and a book for Php.125.60. how much more did the book cost than the bag?
2. A salesman traveled 76.45 km in the morning and 56.24 km in the afternoon. What is the total traveled of the salesman?
3. Agatha has P90.50 while her brother Simeon has P34.75. How much money do they have? How much more does Agatha have than her brother?
4. The Math Club raised Php 3549.00 during their fund raising campaign. The club will be buying 3 items worth Php439.25, Php519.50 and Php835.90. How much more money does the club need to buy the items?
5. A rectangular garden measures 35.7 meters by 28.6 meters. Estimate how many meters of fencing material are needed to enclose it.
MARLON P. MACTAL
Master Teacher I

Cabu Elementary School

Reference
Excelling in Mathematics page 180-181
Lesson 36. Solving Routine or Non-routine Problems Involving Addition and Subtraction of Decimal Numbers Including Money Using Appropriate Problem Solving Strategies and Tools (M5NS-IIc-108.1)

Explore and Discover

The distance from Cabanatuan to San Jose is 36.43 km. The distance from Cabanatuan to Pangasinan is 169.37 km. How much farther is Pangasinan than San Jose from Cabanatuan?

Step 1: Understand

- Know what is asked
  How much farther is Pangasinan than San Jose from Cabanatuan?
- Know the given facts
  36.43 km- Cabanatuan to San Jose
  169.37 km- Cabanatuan to Pangasinan

Step 2: Plan

- Identify the operation to use
  Subtraction
- Write the number sentence
  164.37-36.43=N
Step 3: Solve
  ➢ Solution

8 13
169.37
- 36.43
 132.94

➢ Answer
  132.94

Step 4: Check
  132.94-36.4=169.37

It was Mother’s birthday. Nina gave her a pair of slippers that cost P55.50 and a bandana worth P 27.75. How much in all did Nina spend for the gifts?

Step 1: Understand
  ➢ Know what is asked
    How much in all did Nina spend for the gifts?
  ➢ Know the given facts
    P55.50- slippers
    P27.75- bandana

Step 2: Plan
  ➢ Identify the operation to use
    Addition
  ➢ Write the number sentence
    P55.50+P27.75=N

Step 3: Solve
  ➢ Solution
P55.50
+ 27.75
P83.25

Answer
P83.25

Step 4: Check
P83.75 - 27.75 = P55.50

Which of the two problems is easier to solve? Why?

Get Moving!

Solve the following problems.
1. A triangle has sides measuring 3.25 cm, 5.27 cm, and 6.1 cm. What is perimeter?
2. Zaira bought a blouse for P123.75 and a skirt for P135.25. How much change did she get from P500 bill?
3. A meat vendor has 86.45 kilos of pork. She sold P38.54. How many kilos were left?
4. Mactal family spent P865.45 for food and P350.35 for transportation. If they have P1500.00 bill to spend, how much money was left?
5. A tree 13.56 meters high was broken during the storm. The broken part measures 5.27 meters. How tall was the remaining part?

Keep Moving

Study the following menu in a canteen and answer the questions that follow:
1. Carla paid P50.00 for nilaga and rice. How much was his change?
2. Leah ordered palabok and gulaman. How much was her change with her P200 peso bill.
3. Mark ordered rice, pinakbet and fried fish. She gave P500.00 how much was her change?
4. Sandra gave P100 for spaghetti and buko juice. How much is her change?
5. It was Thema's birthday. She ordered spaghetti, palabok, lugaw, buko juice and gulaman. How much should she pay for her order?

Apply Your Skills

Solve the following:
1. John worked at the Pumping station three days last week. He earned P350.85 on Monday, P340.75 on Thursday, and P370.65 on Saturday. How much did he earn in all?
2. Laila earned P50.45 for selling newspaper and he earned P35.50 for selling sampaguita. He paid P46.75 for a pad paper and ballpen. How much money had he left is she had P200.00?
3. Mang Kanor has 9.35 kilogram of tomatoes to sell in the market, In the morning he sold 5.25 kg while he sold 1.25 kg in the afternoon. How many kilograms of tomatoes were left?
MARLON P. MACTAL
Master Teacher I
Cabu Elementary School

Reference:
Lesson Guide in Mathematics Grade V page 269-270
Lesson 37. Creating Problems (with reasonable answers) Involving Addition and Subtraction of Decimal Numbers Including Money (M5NS-IIc-109.1)

Explore and Discover

How do you create a word problem involving addition and subtraction of decimals including money?

You can create a word problem by observing the following guide:

1. Familiarize yourself with the concept and their application to real life situation.
2. Think of the problem you want to create.
3. Read some problems and study their solutions
4. You also consider the following when creating a problem.
   a. Characters
   b. Situation/Setting
   c. Data
   d. Key Questions

Example: Observe the picture of Danny and his father in groceries store at SM Mega Center.

Can you make a word problem out of the picture?
Is the given picture enough to make a word problem?
What are the things/data you see for you to create a word problem?

• Look at the given data
Father and Danny
Grocery Store
Cost of food items
Money of his father

What other data you need?
Cost of the food items inside the groceries
Coco crunch- P103.75
Pringles-P86.50
Piknik-P73.25
Money of his father
P1000.00

Can you now complete the word problem below and solve for the correct answer too. Do this on your notebook.

Father and Danny went to the ____________. He bought ________ for __________, ________ for __________ and ________ for ______________. If he had ____________ how much money were left to his father?

Example 2

Study the table below

<table>
<thead>
<tr>
<th>Name</th>
<th>Things bought</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kylie</td>
<td>Bags</td>
<td>P357.75</td>
</tr>
<tr>
<td>Azaleah</td>
<td>Shoes</td>
<td>P245.25</td>
</tr>
</tbody>
</table>

Study the problem as an example for the data given.

Kylie and Azaleah went to the Department Store. Kylie bought a T-shirt cost P357.75. Azaleah bought a shoes cost P245.25. How much more does Kylie spend than Azaleah?
Write a problem for the numbers and phrases in the box.

1. Carlo had P100. and P38.05 for a notebook. He spent P17.60 a ballpen, P6.90 for a sticker How much money was left with him?

2. He used 2.75 m for a pair of jogging pants How many meters of cloth were not used? A tailor had 5m of cloth. and 1.9 m of T-shirt

3. how much money did he have at first? Alden and P120.00 to Kimmy dora. Yaya dub gave P185.50 to If 197.50 was left with him,

4. His friend Jim is Bench is 175.24 cm tall. How tall is Jim? 0.76 cm taller.

5. for the uniform of her children. How much is her change? Mrs. Ledesma paid P300. Aling Auring charged Mrs. Ledesma P348.25
Use the data below to create a two-step word problem involving addition and subtraction of decimals.

<table>
<thead>
<tr>
<th>Name</th>
<th>Foods Ordered</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thelma</td>
<td>Humburger</td>
<td>P46.50</td>
</tr>
<tr>
<td>Marlon</td>
<td>French Fries</td>
<td>P26.75</td>
</tr>
<tr>
<td>Kylie</td>
<td>Spaghetti</td>
<td>P50.25</td>
</tr>
</tbody>
</table>

Apply Your Skills

Use the data below to create a problem for each of the ff.
1. One-step word problem involving addition of decimals
2. One-step word problem involving subtraction of decimals
3. Two-step word problem involving addition and subtraction of decimals

<table>
<thead>
<tr>
<th>Name</th>
<th>Monthly Salary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zaijan</td>
<td>P 7,265.85</td>
</tr>
<tr>
<td>Lei</td>
<td>P 9,439.20</td>
</tr>
<tr>
<td>Kendra</td>
<td>P 11,292.75</td>
</tr>
</tbody>
</table>

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Master Teacher I
Cabu Elementary School

Reference:
Learners Materials in Grade 4 page 78
Excelling in Mathematics page 183
Lesson 38. Visualizing Multiplication of Decimal Numbers Using Pictorial Models (M5NS-IIId-110)

Explore and Discover!

Mrs. Sanchez farm is 0.6 km long and 0.3 km wide. How big is his land?

Can you visualize how big is his land?

We can use grid to visualize multiplication of fractions.

Every morning Kylie goes jogging he can jog 0.5 kilometers. How many kilometres he can jog in 2 days?

Can you visualize kilometres he can jog in two days?

Another method that we can use to visualize multiplication of decimals is by using number line.

\[ 2 \times 0.5 = N \]
The number line above shows that when we joined two five tenths, we complete one line of 1.0. therefore 2 x 0.5=1.0

Get Moving!

Illustrate the following multiplication of decimals by using number lines.

1. 0.4 x 0.5 =
2. 0.6 x 0.2 =
3. 0.7 x 0.3 =
4. 0.9 x 0.4 =
5. 0.5 x 0.3 =

Keep Moving!

Directions: Illustrate the given equation in a grid.

1. 0.3 x 0.5 = n
2. 0.6 x 0.1 = n
3. 0.5 x 0.8 = n
4. 0.2 x 0.9 = n
5. 0.8 x 0.3 = n
6. 0.2 x 0.7 = n
7. 0.4 x 0.8 = n
8. 0.5 x 0.9 = n
9. 0.8 x 0.6 = n
10. 0.7 x 0.6 = n

Apply Your Skills!

Read and solve the following. Use your own pictorial model to answer the following.

1. My cousins saved P0.70 a day. How much money he can save in two week?
2. The length of the rectangle is 0.5 m and width of 0.9 m. What is the area of the triangle?
3. A lot has a length of 0.4 and 0.3 wide. What is the area?
4. A painting having a dimension of 0.5m and 0.8m is to be wrapped with a cloth 0.4 m larger than its dimensions. What is the area of the cloth?

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Master Teacher I
Cabu Elementary School

Reference:
Lesson Guide in Elementary Mathematics page 275-278
Lesson 39: Multiplying decimals up to 2 decimal places by 1 to 2 digit whole numbers (M5NS-IIId-111.1).

Explore and Discover!

Kendra wants to reduce her weight. Every morning he jogs in freedom park, if she burns 6.35 of food energy per minute while jogging. How many calories does she burn if she jogs for 5 minutes?

What can you say about Kendra?
Why exercise is important to our body?
Can you find the answer? How shall we do it?

Solution:

In the problem we will multiply 6.35 by 5. How do we multiply decimals? We can follow these steps in multiplying decimals.

\[
\begin{array}{c}
6.35 \\
\times 5 \\
\end{array}
\]

Step 1. Multiply as with whole numbers. Regroup if necessary.
Step 2. Count the number of decimal places in the factors.

\[
\begin{array}{cccc}
1 & 2 \\
6.35 & X & .5 & \rightarrow \\
3175 & & & 2 \\
\end{array}
\]

Step 3. Place the decimal point in the product. The decimal place in the product is equal to the total number of decimal places in the factors.

\[
\begin{array}{cccc}
6.35 & X & 5.2 & \rightarrow \\
31.75 & & & 2 \\
\end{array}
\]

Get Moving!

A. Multiply. Choose your answer from the choices given inside the parenthesis.

1. \(6.45 \times 4 = \) ( a. 25.80 b. 25.90 c. 25.85 )
2. \(9.53 \times 6 = \) ( a. 56.18 b. 57.18 c. 57.28 )
3. \(5.27 \times 3 = \) ( a. 15.81 b. 15.18 c. 14.81 )
4. \(8.93 \times 12 = \) ( a. 108.72 b. 109.16 c. 107.16 )
5. \(7.46 \times 15 = \) ( a. 112.09 b. 111.90 c. 112.80 )

B. Find the product in each of the following:

C.

1.) \(6.3 \times 4\)
2.) \(53.16 \times 7\)
3.) \(9.26 \times 14\)
4.) \(12.45 \times 8\)
5.) \(17.94 \times 15\)
Keep Moving!

A. Arrange in column the multiply the following.

1. 3.5 x 3 =
2. 6.24 x 8 =
3. 5.52 x 9 =
4. 9.28 x 7 =
5. 8.39 x 6 =
6. 21.5 x 12 =
7. 35.2 x 18 =
8. 24.20 x 34 =
9. 26.25 x 42 =
10. 31.29 x 56 =

B. Solve

1. What is 5.25 multiplied by 7?
2. What is the product of 6 and 3.27?
3. What is 53.8 times 9?
4. Find the product of 16.38 and 12.
5. What is thrice the number 5.87?

Apply Your Skills!

Solve the following problem.

1. If a notebook is ₱ 5.25, how much is the cost of 6 notebooks?
2. Janice receives an allowance of ₱25.20 a day. How much is her allowance in 5 days?
3. A book costs ₱95.50. If Jenny buys 7 books, how much should she pay for the cashier?
4. A notebook costs ₱9.36 each. If Loyd buy 12 notebooks, how much should he pay for the cashier?
5. A working student earns ₱ 25.50 an hour. How much does he earn in 4 hours? If he works 3 days a week, how much does she earn a week?
MARLON P. MACTAL
Master Teacher I

Cabu Elementary School

Reference:

Learning guide in Mathematics V page 290-292
Growing Up Math V page 320-321
Mary Joy had a rectangular garden. The length is 0.93 and a width of 0.5. What is the area of the garden?

Do you have a garden at home?
What vegetables can we planted in the garden?
How would you solve the problem?

To solve multiply 0.93 x 0.5 we must follow the steps in multiplying decimals:

Step 1. Multiply like a whole number.

\[
\begin{array}{c}
4.1 \\
0.93 \\
\times 0.5 \\
\end{array}
\]
Step 2. Count the number of decimal places in the factors.

\[
\begin{array}{ccc}
0.93 & \rightarrow & 2 \\
0.5 & \rightarrow & 0
\end{array}
\]

465
000

Step 3. Add the partial product

\[
\begin{array}{ccc}
0.93 & \rightarrow & 2 \\
0.5 & \rightarrow & 2 \\
\hline
465 & \rightarrow & 3 \text{ decimal places}
\end{array}
\]

\[
\begin{array}{ccc}
0.93 & \rightarrow & 2 \\
0.5 & \rightarrow & 2 \\
\hline
465 & \rightarrow & 3 \text{ decimal places}
\end{array}
\]

\[
+ \quad \underline{000}
\]

0465

Step 4. Place the decimal point in the product. The decimal place in the product is equal to the total number of decimal places in the factors.

\[
\begin{array}{ccc}
0.93 & \rightarrow & 2 \\
0.5 & \rightarrow & 2 \\
\hline
465 & \rightarrow & 3 \text{ decimal places}
\end{array}
\]

\[
\begin{array}{ccc}
0.93 & \rightarrow & 2 \\
0.5 & \rightarrow & 2 \\
\hline
465 & \rightarrow & 3 \text{ decimal places}
\end{array}
\]

\[
+ \quad \underline{000}
\]

0.465

Get Moving!

Find the product in each briefcase.

1. 0.82 \times 0.6

2. 0.93 \times 0.23

3. 0.26 \times 0.8
A. Find the product of the following
   1. 0.35 x 0.3 =
   2. 0.67 x 0.5 =
   3. 0.42 x 0.9 =
   4. 0.37 x 0.7 =
   5. 0.59 x 0.4 =
   6. 0.40 x 0.51 =
   7. 0.82 x 0.64 =
   8. 0.26 x 0.05 =
   9. 0.77 x 0.29 =
  10. 0.48 x 0.08 =

B. Multiply the following

   1. 0.66 x 0.89
   2. 0.95 x 0.48
   3. 0.54 x 0.72
   4. 0.85 x 0.57
   5. 0.69 x 0.27
Apply Your Skills!

1. 0.28 multiplied by 0.36 gives the product of ___________.
2. Find the product of 0.25 and 0.86.

3. A satellite takes 95.57 minutes to orbit the earth. How many times will it take for 9.5 orbits?
4. What is the area of a rectangle with a length of 0.79 dm and 0.25 dm?
5. The earth travels around the sun at 29.66 km per second. If Jose Travels 0.71 times the speed of the earth. How fast does Jose travels?

MARLON P. MACTAL
Master Teacher I
Cabu Elementary School

Reference:
Activity Workbook in Mathematics TIMSS-BASED page 11-12
Lesson 11: Estimating the Sum or Difference of Decimal Numbers with Reasonable Results
M6NS-IIC-107

Get Moving:

A.
1. 37
2. 18
3. 159
4. 12.8
5. 66

B.
1. 19
2. 32
3. 9
4. 4
5. 4

Keep Moving

A.
1. 1032
2. 376
3. 55
4. 28
5. 49

B.
1. 342
2. 282
3. 403
4. 3920
5. 7146
Lesson 12: Lesson 36- Solving Routine or Non-routine Problems Involving Addition and Subtraction of Decimal Numbers Including Money Using Appropriate Problem Solving Strategies and Tools (M5NS-IIc-108.1)

Get Moving
1. 14.62
2. 241
3. 47.91
4. 715.80
5. 8.29

Keep Moving

1. P18.50
2. P169.25
3. P459.75
4. P63.00
5. P78.50

Lesson 13- Creating Problems (with reasonable answers) Involving Addition and Subtraction of Decimal Numbers Including Money (M5NS-IIc-109.1)

Get Moving
1. Carlo had P100. He spent P17.60 for a ballpen, P6.90 for a sticker and P38.05 for a notebook. How much money was left with him?

2. A tailor had 5m of cloth. He used 2.75 m for a pair of jogging pants and 1.9 m of T-shirt. How many meters of cloth were not used?

3. Yaya dub gave P185.50 to Alden and P120.00 to Kimmy dora. If 197.50 was left with him, how much money did he have at first?

4. Bench is 175.24 cm tall. His friend Jim is 0.76 cm taller. How tall is Jim?

5. Aling Auring charged Mrs. Ledesma P348.25 for the uniform of her children. Mrs. Ledesma paid P300. How much is her change?

---

Keep Moving

Possible Answer:

1. Thelma ordered humburger worth P46.50 while Marlon ordered french fries worth P26.75. What is the total of the two foods ordered by Thelma and Marlon?

2. Kylie ordered spaghetti, french fries and humburger. How much should she pay in the cashier?

3. Marlon ordered humburger and french fries while Kylie ordered spaghetti and french fries. Which of the two had bigger order? By how much?

---

Applying your Skills

Possible answer:

1. Zaijan has a monthly salary of P7,265.85 and Lei has P9,349.20. What is the total of their salaries?

2. Kendra works in SM City, her monthly salaries was P11,292.75 while Lei works in N.E. Pacific and have monthly salary of P9,439.20. How much greater the salary of Kendra compared to Lei?

3. Zaijan, Lei and Kendra lives on the same house. Zaijan monthly salary was P7,265.85, Lei monthly was P9,349.20 and Kendra was P11,292.75. The total expenses on their house was P6,023.75. What is the total of their money if we less the expenses on their house?
Lesson 14: Visualizing Multiplication of Decimal Numbers Using Pictorial Models (M5NS-IIId-110)

Get Moving

1. 0.15

2. 0.06

Keep Moving!
Apply your Skills

1. 0.140

2. 0.45

3. 0.12

4. 0.40
Lesson 15: Multiplying decimals up to 2 decimal places by 1 to 2 digit whole numbers (M5NS-IId-111.1).

Get Moving

A.

1. a
2. b
3. a
4. b
5. b

B.

1. 25.2
2. 372.12
3. 129.64
4. 99.60
5. 269.10

Keep Moving

A.

1. 10.5
2. 49.92
3. 49.68
4. 64.96
5. 50.34
6. 258.00
7. 633.60
8. 822.80
9. 1102.5
10. 1752.24
Apply your Skills

1. P31.50
2. P126.00
3. P668.50
4. P112.32
5. P76.50

Lesson 16: Multiplying decimals with factors up to 2 decimal places
(M5NS-IIId-111.2)

Get Moving
1. 0.492
2. 0.2139
3. 0.208
4. 0.3328
5. 0.2736

Keep Moving!

A.
1. 0.105
2. 0.335
3. 0.378
4. 0.259
5. 0.236
6. 0.204
7. 0.5248
8. 0.013
9. 0.2233
10. 0.0384

B.
1. 0.5874
2. 0.456
3. 0.3888
4. 0.4845
5. 0.1863

C. Apply Your Skills

1. 0.1008
2. 0.215
3. 907.915
4. 0.1975
5. 21.0586
Lesson: 41. **Estimating the products of decimal numbers with reasonable results. M5NS-Ile-11**

**Explore and Discover!**

For their fund-raising campaign, a Grade 5 class of Cabanatuan East Central School sold packages of banana chips at ₱11.75 per package. If they sold 210 packages, about how much did they get?

We use rounding to estimate products.

Study the solution

By rounding,

\[
\begin{align*}
\text{₱11.75} & \quad \rightarrow \quad \text{₱12.00} \\
\times 210 & \quad \rightarrow \quad \times 200 \\
\text{₱2,400} & 
\end{align*}
\]

The class got about ₱2,400.00.

To estimate the product round each factor to the greatest/highest place value, then multiply the rounded factors.

**Get Moving**

Round each factor to the greatest place value and estimate each product.

1. \( 42.6 \times 37.2 = \)  
2. \( 68.54 \times 24.4 = \)  
3. \( 99.2 \times 48.5 = \)

4. \( 123.86 \times 31.5 = \)  
5. \( 246.3 \times 9.67 = \)
The following are some items that Alycris needs to buy from a Robinson’s Department Store.

- a pair of socks - ₰75.95
- handkerchief - ₰65.25
- t-shirt - ₰119.50
- Shorts - ₰59.30
- face towel - ₰38.75

* About how much money must you have to be able to buy the following:

1. a pair of socks?  
2. two t-shirts?  
3. five face towels?  
4. seven handkerchiefs?  
5. three shorts?

**Apply Your Skills**

Read the problems then answer the questions that follow:

Mang Tomas and other farmers of Aduas harvested palay for Araw ng Cabanatuan Festive. They were able to fill 56.5 cavans each weighing 25.5 kilograms.

1. About how many kilograms of palay were harvested for the Araw ng Cabanatuan Festive?
2. If they will sell the palay for ₰24.25 a kilo,
   a) By how much will they get for one cavan?
   b) By how much will they get for all the palay?
3. A businessman will buy all the cavans, but he will be given 1.5 kilograms free for each cavan. About how much will he pay?
4. Do you think that much of palay will be ready to be sold for Araw ng Cabanatuan Festive if only Mang Tomas harvested the palay? Why?

If 1 meter of cloth costs ₰78.95, about how much would 6.8 meters cost?

1. About how much is the cost of cloth?
2. How much is the difference with the exact value than the estimated one?
Lesson 42: Solving routine and non-routine problems involving multiplication without or with addition or subtraction of decimals and whole numbers including money using appropriate problem solving strategies and tools. M5NS-IIe-113.1

Explore and Discover!

Problem 1
For Bea’s birthday, Mother bought a cake at ₱250, 4 gallons of ice cream at ₱450 each and chocolate candies worth ₱225 from NE Bake Shop. She brought with her 5 ₱500 bills. How much was left of her money?

Routine = Problem 1
To analyze and solve the problem, you can do these steps.

A. Understand
1. Read and understand the problem
2. Know what is being asked in the problem.
   How much was left of her money?
3. Know the hidden information.
   The total amount of 4 gallons of ice cream.
4. Find the necessary information

B. Plan
The given facts are: ₱250 a cake, 4 gallons of ice cream for ₱450 each, ₱225 chocolate candies and 5 ₱500 bills.

Problem 2
Allen bought 6 watt pads at ₱155 each and 5 sports magazines at ₱75 for his friends. How much change did he get from his three ₱500-peso bills?
1. Determine what operations are going to used. Multiplication, Addition and Subtraction

2. Write the number sentences for the hidden questions.

   \[ 4 \times ₱450 = n \quad 4 \times ₱450 = ₱1,800 \]

C. Solve: Show your solution:

   \[
   (5 \times 500) - \{ (4 \times 450) + (250 + 225) \} = n
   \]

   \[
   2500 - (1800 + 475) = n
   \]

   \[
   2500 - 2275 = n
   \]

   \[ ₱225 = n \]

   So, the total change for ₱2500 is ₱225

D. Check and Look back:

Did I use correct operations? Are the answers reasonable? Did I write my answers in a complete sentence?

Non Routine = Problem 2

* Understand

Know what is asked: The total change did him get from his three 500- peso bills?

Know the given facts: 6 watt pads at ₱155, 5 sports magazines at ₱75, three 500- peso bills

Plan: Make a diagram or drawing.

\[
\begin{align*}
3 - ₹500 & \quad - \quad 6 \text{ watt pads at ₹155} \\
+ 5 \text{ sports magazines at ₹75} & \quad = \quad n
\end{align*}
\]

Solve:

\[
₹1500.00 - (6 \times ₹155) + (5 \times ₹75) = n
\]

a) So we multiply (3 \times ₹500), (6 \times ₹155) and (5 \times ₹75)
b) Get the product of the 3 and ₹500 (1500)
c) Get the sum of 930 and 375 (1305)
d) Subtract the sum of the two from ₱1500 (1500- 1305)
e) The answer is 195
f.) So the final answer is ₱195 left from 3- ₱500 of Alvin.

Note:
The first problem is an example of a routine problem. Routine problem solving concerns problems that are useful for daily living.
The second problem is an example of a non-routine problem. Non-routine problem solving concerned with developing pupils’ mathematical reasoning power and creative effort with understanding. This kind of problem motivates the pupils to solve. Strategies used in these kinds of problem are role playing, drawing, using patterns and working backwards.

Get Moving

Give the hidden question, write the number sentence, and solve.

a. Mrs. Jane Salvador is being paid ₱120.85 per hour of work. She worked eight hours each day for four days. On the fifth day, she worked 4.25 hours. How much did she receive for 5 days of work?
b. At a benefit show in SM City Cabanatuan, special tickets cost ₱85.00 each while regular tickets cost ₱45.00. What was the total sale if 275 regular tickets and 120 special tickets were sold?
c. Car A and Car B are running in opposite directions. Car A runs 75.45 kph while Car B runs 67.28 kph. How far apart will they be after 2.25 hours?

Keep Moving

Write the number sentence for each problem then solve.

1) Barangay Bangad is 28.5 km from the City proper. In going there, Jaypee traveled 15.75 km by jeep and 3.5 km by tricycle and the rest by walking. How many km did he travel by walking?
2) The Vergara family went to a carnival. They bought 2 tickets for adults at ₱180.00 each and 3 tickets for children at ₱160.00 each. How much change did they receive from a ₱1,000 given to the ticket seller?

3) Tricia is going to attend the school acquaintance party; her mother bought a pair of shoes costs ₱700, party dress at ₱1,750 and ₱250 for her makeup artist. She paid two ₱1,000 bills for all the expenses. How much was left for her money?

---

**Apply Your Skills**

A. Read then solve for the answer.

Andrea and Cecilia shared ₱500 each to buy the following for their brother’s birthday: 12 pies at ₱20.50 each, 6 watermelons at ₱45.50 each, 4 cans of juice at ₱23.50 each. They spent the rest of the money for ice cream and cookies. How much did they spend for the ice cream and cookies?

B. The table below shows the fare for a journey by taxi. Solve

<table>
<thead>
<tr>
<th>First 500 m</th>
<th>₱30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Every subsequent 500 m or part thereof</td>
<td>₱4.50</td>
</tr>
</tbody>
</table>

Japhet took a taxi from his home to his office, which was 4.25 km away. How much taxi fare did he have to pay?
Lesson 43: Visualizing Division of Decimals using pictorial models
M5NS-IIf-115

Explore and Discover!

A bamboo pole 0.8 of a meter long was cut into pieces each by 0.2 meter long. How many pieces of bamboo were there?
Find: $0.8 \div 0.2$

Use a number line to solve the problem.

The number line shows that there are four 0.2’s in 0.8. So, $0.8 \div 0.2 = 4$
Answer: There were 4 pieces of bamboo.

Get Moving!

MORE EXAMPLES

Use a number line to find each quotient.

1. $0.9 \div 0.3$

Grade 5 Quarter 2 Learner's Materials
Using number line, it shows that there are three 0.3’s in 0.9 hence, \(0.9 \div 0.3 = 3\)

2. \(1.2 \div 0.4\)

There are three 0.4’s in 1.2 hence, \(1.2 \div 0.4 = 3\)

**Keep Moving!**

Write the division sentence shown in each number line.

1.

2.

3.

4.

5.
Draw a number line to find each quotient.

6. \(0.6 \div 0.3\)  
7. \(1.2 \div 0.3\)  
8. \(3.6 \div 0.9\)  
9. \(1.5 \div 0.5\)  
10. \(1.8 \div 0.2\)  
11. \(4.5 \div 0.5\)

Apply Your Skills!

A. Copy the grid at the right. Find each quotient using the grid.

1. \(0.8 \div 0.2\)  
2. \(0.6 \div 0.1\)  
3. \(0.9 \div 0.3\)  
4. \(0.4 \div 0.2\)  
5. \(0.5 \div 0.5\)

B. Divide the following using number line.

1. \(2.5 \div 0.5\)  
2. \(6.9 \div 0.3\)  
3. \(8.4 \div 0.4\)  
4. \(9.6 \div 0.2\)  
5. \(7.7 \div 0.7\)
Lesson 44: Dividing Decimals With Up to 2 Decimal Places. M5NS-IIf-116.1

Explore and Discover

Miss Penetrante has 0.64 dm of ribbon. She needs 0.04 dm of ribbon to prepare one certificate. How many certificates can she prepared with the ribbon that she had?

To find number of certificates that she needs to prepare is to divide 0.64 dm of ribbon by 0.04 dm each. But, how we divide a decimal by another decimal?

Since we already know how to divide a whole number, we can change the divisor and the dividend as whole number by multiplying it by the powers of 10. As we have learned, the shortcut for this is to move the decimal point of the divisor as how many decimal places needed to the right in order to change it as whole number same as the dividend. We can show this by means of an example below.

\[
\begin{array}{c}
0.04 \quad \div \quad 0.64
\uparrow
\hline
\end{array}
\]

\[
\begin{array}{cc}
0.64 & \rightarrow 464 \\
4 & \rightarrow 464 \\
24 & \rightarrow 244 \\
24 & \rightarrow 244 \\
0 & \rightarrow 0
\end{array}
\]

- Miss Penetrante prepared 18 certificates with a ribbon of that size.

• Multiply both the divisor and the dividend by 100 or powers of 10. Using shortcut, it shows by means of an arrow.
• Divide as how you divide whole numbers.

Get Moving!

Divide. Show how the decimal point is being moved in the given. Check your answer using multiplication.
1. \( \frac{0.02}{0.40} \)
2. \( \frac{0.04}{0.80} \)
3. \( \frac{0.06}{0.12} \)
4. \( \frac{0.05}{0.60} \)
5. \( \frac{0.07}{0.42} \)

Solve for \( n \). You can use a calculator to check if your answers are correct.

1. \( 7.26 \div 0.22 = n \)
2. \( 17.92 \div 0.64 = n \)
3. \( 7.65 \div 0.85 = n \)
4. \( 36.20 \div 0.05 = n \)
5. \( 31.85 \div 0.91 = n \)

Apply Your Skills!

Read, analyze and solve the following problems.

1. A nutritionist poured 0.70 liter of honey into 0.14 liter plastic cups filled.
2. A rectangular rice field is 0.04 kilometer wide and has an area of 0.80 square kilometer. Find the length of the field.
3. A city government plans to put streetlights along its 8.40 km main road. The streetlights are to be placed 0.20 km apart. How many streetlights will the city government need?

4. Mother paid Php198.45 for 0.81 kg of rice. How much did a kilogram of rice cost?

5. A mountaineer walked 5.75 kilometers in 1.25 hours. What was his average speed?

6. Isabelle has Php38.50 left in her purse. She has to buy ribbons for the gifts. Each meter of a ribbon costs Php5.50. How many meters of ribbon can she buy?

7. Mang Totoy has 7.5 hectares of land. He wants to divide it into 1.5 hectares from his sons. How many sons does Mang Totoy have?

8. Anna and Elsa went to Pacific Mall to buy plates seen by their mother yesterday which cost Php 54.75 each. Mother gave them Php 766.50. How many plates can they buy?

9. Merwin is planning to buy a new CD player worth Php4,595.25. He tries to save Php306.35 a week from his allowance. How many weeks will it take to save the amount enough to buy the CD player?

10. Ryan saves Php105.35 a week. How long will it take him to save Php1,264.20?
Lesson 45: Dividing Whole Numbers with Quotients in Decimal Form. M5NS-IIf-116.2

Explore and Discover

Nerissa helps in her mother’s sari-sari store after classes. If she works 15 hours in 30 days, what is the average number of hours she works there in a day?

Find : \[15 \div 30 = n\]

\[
\begin{array}{c|c|c}
30 & 15.0 \\
15 & \downarrow 0 \\
0 & \\
\end{array}
\]

Check:

\[
\begin{array}{c|c|c}
30 & X \ 0.5 \\
15 & \\
\end{array}
\]

Follow these steps:
1. Add decimal point and zero in the dividend since it is smaller than its denominator
2. Write the decimal point in the quotient directly above the decimal point in the dividend.
3. Divide as how you divide whole numbers.

Answer: Nerissa works an average of 0.5 hours a day in the store.

Get Moving!

Divide. Round off your answer to the nearest hundredths.

\[
\begin{array}{c|c|c}
16 \div 13 & 65 \div 57 \\
26 \div 19 & 82 \div 78 \\
30 \div 25 & \\
\end{array}
\]
Keep Moving!

Solve for $n$. You can use a calculator to check if your answers are correct.

1. $4 \div 80 = n$
2. $7 \div 14 = n$
3. $11 \div 19 = n$
4. $31 \div 83 = n$
5. $42 \div 52 = n$
6. $25 \div 50 = n$
7. $34 \div 45 = n$
8. $52 \div 95 = n$
9. $75 \div 85 = n$
10. $65 \div 75 = n$

Apply Your Skills!

Read, analyze and solve the following problems.

1. What is the quotient if 36 is divided by 48?
2. Aling Letty has 35 m of wire for hanging pictures. She wants to divide it into 50 pieces for the frames. How long did she used for each frame?
3. Mang Roman left 12 doughnuts for his 5 children for their snacks. How many doughnuts did each child get?
4. Mang Andong is a hardworking man who owned 6 hectares of land in Kalikid Norte. In his last will and testament, he divided the lot equally among his 8 children. How many hectares each of his children received?

5. Shirwin and Angelo went to the NE Supermarket to buy 14 kilos of pork. When they came home, they divided the meat into 16 parts and put it in plastic bags for future use. How many kilos of pork does each bag contain?
Answer Key LM Lesson 41

Get Moving

Round each factor to the greatest place value and estimate each product.

1. \(42.6 \times 37.2 = 43 \times 37 = (1,591) 1,600\)
2. \(68.54 \times 24.4 = 69 \times 24 = (1,656) 1,700\)
3. \(99.2 \times 48.5 = 99 \times 49 = (4,851) 4,900\)
4. \(123.86 \times 31.5 = 124 \times 32 = (3,968) 4,000\)
5. \(246.3 \times 9.67 = 246 \times 10 = (2,460) 2,500\)

Keep Moving

The following are some items that Alycris needs to buy from a Robinson’s Department Store.

- a pair of socks - ₱75.95
- handkerchief - ₱65.25
- t-shirt - ₱119.50
- Shorts - ₱59.30
- face towel - ₱38.75

* About how much money must you have to be able to buy the following:
  1. a pair of socks?
  2. two t-shirts?
  3. five face towels?
  4. seven handkerchiefs?
  5. three shorts?

1. A pair of socks = ₱76.00
2. Two t-shirts = ₱120 \times 2 = ₱240.00
3. Five face towels = ₱39 \times 5 = ₱200.00
4. Seven handkerchiefs = ₱65 \times 7 = ₱460.00
5. Three shorts = ₱59 \times 3 = ₱180.00

Apply Your Skills

Read the problems then answer the questions that follow:

Mang Tomas and other farmers of Aduas harvested palay for Araw ng Cabanatuan Festive. They were able to fill 56.5 cavans each weighing 25.5 kilograms.
1. About how many kilograms of palay were harvested for the Araw ng Cabanatuan Festive? **About 1,500 kilograms of palay**
2. If they will sell the palay for ₱24.25 a kilo,
   a) By how much will they get for one cavan? **About ₱1,400.00**
   b) By how much will they get for all the palay? **About ₱36,000.00**
3. A businessman will buy all the cavans, but he will be given 1.5 kilograms free for each cavan. About how much will he pay?
   25.5 – 1.5 = 24 kilos per cavan x 57 = about 1,400 kilograms
   1,400 kilograms x ₱24 = about ₱34,000.00 he will going to pay.

1. Do you think that much of palay will be ready to be sold for Araw ng Cabanatuan Festive if only Mang Tomas harvested the palay? Why? **The answers may vary.**

If 1 meter of cloth costs ₱78.95, about how much would 6.8 meters cost?

1. About how much is the cost of cloth? **About ₱550.00**
   How much is the difference with the exact value than the estimated one?

   ₱78.95 x 6.8 = ₱536.86
   ₱550.00 - ₱536.86 = ₱13.14 or ₱13 difference
Answer key LM Lesson 42

Get Moving

Give the hidden question, write the number sentence, and solve.

a. Mrs. Jane Salvador is being paid ₱120.85 per hour of work. She worked eight hours each day for four days. On the fifth day, she worked 4.25 hours. How much did she receive for 5 days of work?

Hidden Question:
She worked eight hours each day for four days.

Number Sentence:
$8 \times 4 \times ₱120.85 = (₱3,867.20) \text{ about } ₱3,900.00$
On the fifth day
$4.25 \times ₱120.85 = (₱513.61) \text{ about } ₱514.00$

How much did she receive for 5 days of work?
$₱3,900.00 + ₱514.00 = (₱4,414.00) \text{ about } ₱4,400.00$

b. At a benefit show in SM City Cabanatuan, special tickets cost ₱85.00 each while regular tickets cost ₱45.00. What was the total sale if 275 regular tickets and 120 special tickets were sold?

Hidden Question:
What was the total sale if 275 regular tickets and 120 special tickets were sold?

Number Sentence:
Special tickets $₱85.00 \times 120 = ₱10,200$
Regular tickets $₱45.00 \times 275 = ₱12,375$

What was the total sale if 275 regular tickets and 120 special tickets were sold?
$₱10,200 + ₱12,375 = (₱22,575.00) \text{ about } ₱22,600.00$

c. Car A and Car B are running in opposite directions. Car A runs 75.45 kph while Car B runs 67.28 kph. How far apart will they be after 2.25 hours?

Hidden Question:
How far apart will they be after 2.25 hours?
Number Sentence:
Car A runs 75.45 kph x 2.25
Car B runs 67.28 kph x 2,25

Car A  75 x 2 = 150 kph
Car B  67 x 2 = 134 kph

How far apart will they be after 2.25 hours?

\[
\begin{align*}
\text{Car A} & \quad 75 \times 2 = 150 \text{ kph} \\
\text{Car B} & \quad 67 \times 2 = 134 \text{ kph} \\
\hline \\
(284 \text{ kph}) & \quad \text{about 280 kph}
\end{align*}
\]

**Keep Moving**

Write the number sentence for each problem then solve.

1) Barangay Bangad is 28.5 km from the City proper. In going there, Jaypee traveled 15.75 km by jeep and 3.5 km by tricycle and the rest by walking. How many km did he travel by walking?

Number Sentence:

\[
28.5 \text{ km} - (15.75 \text{ km} + 3.5 \text{ km})
\]

How many km did he travel by walking?

\[
28.5 \text{ km} - (15.75 \text{ km} + 3.5 \text{ km}) \\
28.5 \text{ km} - 19.25 = 9.25 \text{ km or about 9 km.}
\]

2) The Vergara family went to a carnival. They bought 2 tickets for adults at ₱180.00 each and 3 tickets for children at ₱160.00 each. How much change did they receive from a ₱1,000 given to the ticket seller?

Number Sentence:

2 tickets for adults at ₱180.00 each
2 \times ₱180.00

3 tickets for children at ₱160.00 each
3 \times ₱160.00
How much change did they receive from a ₱1,000 given to the ticket seller?

\[
\begin{align*}
2 \times ₱180.00 &= ₱360.00 \\
3 \times ₱160.00 &= ₱480.00 \\
\hline
\text{₱840.00} \\
\end{align*}
\]

3) Tricia is going to attend the school acquaintance party; her mother bought a pair of shoes costs ₱700, party dress at ₱1,750 and ₱250 for her makeup artist. She paid three ₱1,000 bills for all the expenses. How much was left for her money?

Number Sentence:

- a pair of shoes costs ₱700.00
- party dress at ₱1,750.00
- for her makeup artist ₱250.00

\[
\begin{align*}
3 \times ₱1,000.00 - (₱700.00 + ₱1,750.00 + ₱250.00) = ₱300.00
\end{align*}
\]

Apply Your Skills

A. Read then solve for the answer.

Andrea and Cecilia shared ₱500 each to buy the following for their brother's birthday: 12 pies at ₱20.50 each, 6 watermelons at ₱45.50 each, 4 cans of juice at ₱23.50 each. They spent the rest of the money for ice cream and cookies. How much did they spend for the ice cream and cookies?

Number Sentence:

\[
\begin{align*}
2 \times ₱500 \\
12 \text{ pies at } ₱20.50 \text{ each} \\
6 \text{ watermelons at } ₱45.50 \text{ each} \\
4 \text{ cans of juice at } ₱23.50 \text{ each} \\
\hline
2 \times ₱500 - (12 \times ₱20.50) + (6 \times ₱45.50) + (4 \times ₱23.50)
\end{align*}
\]
Get Moving!

MORE EXAMPLES

Use a number line to find each quotient.

1. \(0.9 \div 0.3\)

Using number line, it shows that there are three 0.3’s in 0.9
hence, \(0.9 \div 0.3 = 3\)

2. \(1.2 \div 0.4\)

There are three 0.4’s in 1.2
hence, \(1.2 \div 0.4 = 3\)

Keep Moving!

Write the division sentence shown in each number line.

1. \(0.6 \div 0.2 = 3\)

Answer  \(0.6 \div 0.2 = 3\)
Answer \[ 0.8 \div 0.4 = 2 \]

3.

Answer \[ 1.2 \div 0.3 = 4 \]

4.

Answer \[ 1.4 \div 0.2 = 7 \]

Draw a number line to find each quotient.

1. \[ 0.6 \div 0.3 \]

2. \[ 1.2 \div 0.3 \]

3. \[ 3.6 \div 0.9 \]

4. \[ 1.8 \div 0.2 \]

5. \[ 4.5 \div 0.5 \]
Apply Your Skills!

1. Copy the grid at the right. Find each quotient using the grid.
   1. \(0.8 \div 0.2\)
   2. \(0.6 \div 0.1\)
   3. \(0.9 \div 0.3\)
   4. \(0.4 \div 0.2\)
   5. \(0.5 \div 0.5\)

2. Divide the following using number line.
   2.5 \(\div 0.5\)
   6.9 \(\div 0.3\)
   8.4 \(\div 0.4\)
   9.6 \(\div 0.2\)
   7.7 \(\div 0.7\)
Get Moving!

Divide. Show how the decimal point is being moved in the given. Check your answer using multiplication.

1. \( \frac{0.02}{0.40} \)
   
   \[
   \begin{array}{c|c}
   \text{Check} & 20 \\
   \hline
   20 & 40 \\
   40 & 80 \\
   \hline
   20 & \text{Check}
   \end{array}
   \]

2. \( \frac{0.04}{0.80} \)
   
   \[
   \begin{array}{c|c}
   \text{Check} & 20 \\
   \hline
   20 & 80 \\
   80 & 160 \\
   \hline
   80 & \text{Check}
   \end{array}
   \]

3. \( \frac{0.06}{0.12} \)
   
   \[
   \begin{array}{c|c}
   \text{Check} & 2 \\
   \hline
   2 & 12 \\
   12 & 24 \\
   \hline
   12 & \text{Check}
   \end{array}
   \]

4. \( \frac{0.05}{0.60} \)
   
   \[
   \begin{array}{c|c}
   \text{Check} & 12 \\
   \hline
   12 & 60 \\
   60 & 180 \\
   \hline
   60 & \text{Check}
   \end{array}
   \]

5. \( \frac{0.07}{0.42} \)
   
   \[
   \begin{array}{c|c}
   \text{Check} & 6 \\
   \hline
   6 & 42 \\
   42 & 84 \\
   \hline
   42 & \text{Check}
   \end{array}
   \]
Keep Moving!

Solve for n. You can use a calculator to check if your answers are correct.

1. $7.26 \div 0.22 = n$
   \[ n = 33 \]
2. $17.92 \div 0.64 = n$
   \[ n = 28 \]
3. $7.65 \div 0.85 = n$
4. $n = 9$
5. $36.20 \div 0.05 = n$
   \[ n = 724 \]
6. $31.85 \div 0.91 = n$
   \[ n = 35 \]

Apply Your Skills!

Read, analyze and solve the following problems.

1. A nutritionist poured 0.70 liter of honey into 0.14 liter plastic cups filled.
   Answer 5 cups
2. A rectangular rice field is 0.04 kilometer wide and has an area of 0.80 square kilometer. Find the length of the field.
   Answer 20 kilometer
3. A city government plans to put streetlights along its 8.40 km main road. The streetlights are to be placed 0.20 km apart. How many streetlights will the city government needs?
   Answer 42 streetlights
4. Mother paid Php198.45 for 0.81 kg of rice. How much did a kilogram of rice cost?
   Answer Php245.00
5. A mountaineer walked 5.75 kilometers in 1.25 hours. What was his average speed?
   Answer 4.6 kilometers/hour

6. Isabelle has Php38.50 left in her purse. She has to buy ribbons for the gifts. Each meter of a ribbon costs Php5.50. How many meters of ribbon can she buy?
   Answer 7 meters

7. Mang Totoy has 7.5 hectares of land. He wants to divide it into 1.5 hectares from his sons. How many sons does Mang Totoy have?
   Answer 5 sons

8. Anna and Elsa went to Pacific Mall to buy plates seen by their mother yesterday which cost Php 54.75 each. Mother gave them Php 766.50. How many plates they can buy from it?
   Answer 14 plates

9. Merwin is planning to buy a new CD player worth Php4,595.25. He tries to save Php306.35 a week from his allowance. How many weeks will it take to save the amount enough to buy the CD player?
   Answer 15 weeks

10. Ryan saves Php105.35 a week. How long will it take him to save Php1,264.20?
    Answer 12 weeks
Get Moving!

Divide. Round off your answer to the nearest hundredths.

\[
\begin{align*}
16 \div 13 & = 0.8125 \\
26 \div 19 & = 0.7308 \\
30 \div 25 & = 0.8333 \\
65 \div 57 & = 0.8769 \\
82 \div 78 & = 0.9512 \\
30 \div 25 & = 0.8333
\end{align*}
\]

Keep Moving!

Solve for \( n \). You can use a calculator to check if your answers are correct.

1. \( 4 \div 80 = n \) (320)
2. \( 7 \div 14 = n \) (0.5)
3. \( 11 \div 19 = n \) (0.5789)
4. \( 31 \div 83 = n \) (0.3734)
5. \( 42 \div 52 = n \) (0.8076)
6. \( 25 \div 50 = n \) (0.5)
7. \( 34 \div 45 = n \) (0.755)
8. \( 52 \div 95 = n \) (0.5473)
9. \( 75 \div 85 = n \) (0.8823)
10. \( 65 \div 75 = n \) (0.8667)

Apply Your Skills!

Read, analyze and solve the following problems.

1. What is the quotient if 36 is divided by 48?
   Answer \( 0.75 \)

2. Aling Letty has 35 m of wire for hanging pictures. She wants to divide it into 50 pieces for the frames. How long did she used for each frame?
   Answer \( 0.7 \) m

3. Mang Roman left 12 doughnuts for his 5 children for their snacks. How many doughnuts did each child get?
Answer 2.4 doughnuts or 2 2/5 doughnuts

4. Mang Andong is a hardworking man who owned 6 hectares of land in Kalikid Norte. In his last will and testament, he divided the lot equally among his 8 children. How many hectares each of his children received?
Answer 0.75 hectare each of his children

5. Shirwin and Angelo went to the NE Supermarket to buy 14 kilos of pork. When they came home, they divided the meat into 16 parts and put it in plastic bags for future use. How many kilos of pork does each bag contain?
Answer 0.875 kilo
CONTENTS

1. Week 7
   Lesson 1- Estimating the Quotients of Decimal Numbers with Reasonable Results

   Lesson 2-Solving Routine and Non-Routine Problems Involving Division Without or With Any of the Other Operations of Decimals and Whole Numbers Including Money

   Lesson 3-Creating Problems (with reasonable answers) Involving Multiplication and/or Division or With Any Other Operations of Decimals and Whole Numbers Including Money

2. Week 8
   Lesson 1 Visualizing the Ratio of 2 Given Numbers

   Lesson 2 Visualizing ratio using the colon (:) or fraction

Prepared by:

MARY JANE D. SALVADOR
Explore and Discover!

Ana has Php200, she wants to buy a notebook which cost 12.75 each. About how many notebooks can she buy?

What is asked in problem? The estimated number of notebooks Ana can buy.

To estimate the quotient of these decimals, we will use compatible numbers for this problem.

To find an estimate, we will round the divisor. The given number 12.75 is close to 10 and if it used as the divisor 200 the quotient is a whole number. Thus,

\[
\frac{12.75}{200} \quad \rightarrow \quad \frac{20}{200}
\]

Answer: So, Ana can buy atleast 20 notebooks.

To estimate a quotient, we can round the divisor and/or the dividend to a whole number or to a multiple of 10. We may also round one of them and use as compatible numbers. Compatible numbers are numbers that can be divided easily.
To give an estimation of the quotients of decimal numbers in order to give reasonable results, we can use two different ways; a). the rounding off to which we round the dividend or divisor to its highest place value b). the use of compatible numbers to which the numbers are being identified whether they are factors of each.

Let us explore more on the following examples:

1. Estimate the quotient by rounding off the dividend.

   \[ 143.5 \div 6 = n \rightarrow 144 \div 6 = 24 \]

2. Estimate the quotient by rounding off the dividend and the divisor.

   \[ 482 \div 3.1 = n \rightarrow 480 \div 3 = 160 \]

3. Estimate the quotient by using compatible numbers.

   \[ 19.21 \div 1.9 = n \rightarrow 20 \div 2 = 10 \]

**Get Moving!**

A. Choose the compatible numbers inside the box for each item. Write your answer on the space provided.

<table>
<thead>
<tr>
<th>Item</th>
<th>Compatible Numbers</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>24.1 ÷ 6.43</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>26.9 ÷ 3</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>48.29 ÷ 12.107</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>300 ÷ 24.75</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>631.92 ÷ 31.84</td>
</tr>
</tbody>
</table>
B. Estimate the quotient using rounding numbers. Write your answer inside the box.

1. 8.8 ÷ 3.1 =  
2. 71.5 ÷ 6.6 =  
3. 6.12 ÷ 1.9 =  
4. 23.9 ÷ 4.43 =  
5. 81.347 ÷ 9.43 = 

Keep Moving!

Estimate the quotient using rounding numbers. Write your answer inside the box.

a. 67.5 ÷ 7.3 =  
b. 72.6 ÷ 8.8 =  
c. 98.8 ÷ 8.7 =  
d. 88.5 ÷ 4.42 =  
e. 63.8 ÷ 7.8 =  
f. 45.23 ÷ 4.8 =  
**Apply Your Skills!**

Compare the actual and estimated quotient of the following. Use < or >.

<table>
<thead>
<tr>
<th>Actual</th>
<th>Estimated</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. 18.4 ÷ 9</td>
<td>&lt;</td>
</tr>
<tr>
<td>2. 63.92 ÷ 7.84</td>
<td>&lt;</td>
</tr>
<tr>
<td>3. 320 ÷ 12.5</td>
<td>&gt;</td>
</tr>
<tr>
<td>4. 311.93 ÷ 3.08</td>
<td>&gt;</td>
</tr>
<tr>
<td>5. 500 ÷ 24.62</td>
<td>&lt;</td>
</tr>
</tbody>
</table>

B. Solve the problem.

1. Cristina bought 7 meters of plastic cover in AngTiaga Trading for ₱69.75. About how much did each meter cost?

   __________________________________________________________
   __________________________________________________________
   __________________________________________________________

2. Cecilia spent her vacation selling sampaguita in front of the Dambana Church. From that, she earned ₱174.75 in 5 days about how much was her average earnings?

   __________________________________________________________
   __________________________________________________________
   __________________________________________________________
Lesson 47. M5NS-IIg-120.1

Solving Routine and Non-Routine Problems Involving Division Without or With Any of the Other Operations of Decimals and Whole Numbers Including Money

Explore and Discover!

While watching the DepEd Hour Tele-Turuan,

Mat recorded that the 5 commercials in the program he was watching took 6.15 minutes to be aired.

What was the average length of each commercial?

To solve the problems you can use the follow step process:

1. Understand the Problem.

   What is the problem about? Retell the problem in your own words.

2. Make a Plan.

   What strategies might you be able to use? Look for key terms to decide which method of problem solving to use.

   What will the answer be about? Predict what the answer will be. Make an estimation if that will help.

3. Carry out the plan.

   How can you solve the problem? Show your solution. Make sure to label the answer.

4. Look Back.

   How can you tell if your answer is reasonable? Compare your answer to your estimate. Check your answer by redoing your work.
Steps | Answer
--- | ---
Understand:
1. Know what is asked in the problem | Average length of the commercial.
2. Know the given facts. | 5 commercials ; 6.15 minutes
Plan :
3. Determine the operation or formula to use. | Division
Solve:
4. Show the solution. | \( 6.15 \div 5 = 1.23 \)
Check and look back:
- Check your answer. | The average length of each commercial is 1.23 minutes.
- State your answer

Do this with your partner. Solve the following problems:

1. Janice, Judy Anne, and Jenet bought materials for their project worth ₱276.45. The girls divided the amount equally among themselves. How much is each share?

2. Rico wants to buy a battery-operated toy car which costs ₱587.50. He already saved ₱150.00 and his ninong gave him ₱200.00. If he saves ₱12.50 a day from his allowance, how long will it take him to save the rest of the money to buy the toy car?
Get Moving!

Solve the following problems.

1. Mr. Villa bought 91.25 inches of plastic labeling tape. He will make labels 1.25 inches long each. How many labels can he make?

Understand: __________________________________________________

Plan: ________________________________________________________

Solve: _______________________________________________________

Look Back: ___________________________________________________

2. Roman’s allowance a week is ₱250.75. If he will save ₱50.00 and equally divided the rest into 5, how much will he spend a day?

Understand: __________________________________________________

Plan: ________________________________________________________

Solve: _______________________________________________________

Look Back: ___________________________________________________

3. How many pieces of ribbon 3.2 m each can cut from a spool of ribbon 25m long?

Understand: __________________________________________________

Plan: ________________________________________________________

Solve: _______________________________________________________

Look Back: ___________________________________________________

4. Glen was able to save ₱92.50 in five days, spending only ₱10.50 of the allowance given to him a day. How much allowance was given to him a day?

Understand: __________________________________________________

Plan: ________________________________________________________

Solve: _______________________________________________________

Look Back: ___________________________________________________
5. Melanie paid Php114.75 for 6 tumblers. How much did each tumbler cost?

Understand: __________________________________________________

Plan: ________________________________________________________________________________

Solve: ________________________________________________________________________________

Look Back: ____________________________________________________________________________

Keep Moving!

The boxes below contain problems involving division and other operations and the bottom ones contains quotients. Find the quotients in the bottom boxes. Then, write the word from the division problem box into the correct quotient. Your result will be a saying.

1. Which is the cheaper buy: 3 handkerchiefs for Pph 58.50 or 4 handkerchiefs for Php 73.40?

THINGS

2. Aling Flor paid Php 525 for 100 oranges. She sold the oranges at Php 8 each. How much was her profit?

REVENGE

3. Twelve apples sell for Php 194.40. At this rate, how much will you pay for 8 apples?

ONLY

4. A 50-kg sack of rice was repacked into 0.5kg bags and sold at Php 12.50 per bag. How much did all the repacked rice cost?

HAS

5. A bank teller counted Php 1750 in 25 centavo coins and Php 4250 in 10-centavo coins. How many coins did the teller count in all?

WORSE

6. A department store sells face towels at 3 for Php 97.50. A sidewalk vendor sells the same kind of towel at 6 for Php 171. Which is the cheaper buy?

SOMEONE

7. Randy made a long distance call to his father in Dubai at Php 4.85 per minute. How many seconds did Randy consume if he paid a total 107.67?

GET

8. Mr. Macapagal covered 175.45 kilometers in his trip to the province. If his car consumed 12.5 liters of gasoline, how many kilometers did his car cover on a liter of gasoline?

WHEN

9. Mr. Lopez will pay 12 monthly installments for a washing machine costs ₱6775.20. He deposited ₱1200. How much will be his monthly payment?

TRYING
10. Several civic organizations donated a total of 5,412.6 kg of rice to be equally divided among the flood victims from six barrios. How many kilograms of rice will each barrio receive?

**DONE**

11. Ramon weighed 53.2 kg in June then 59.67 kg in October. How many kilograms did he gain?

**TO**

12. Beth bought a kilo of fish at Php 72.75. How much change would she get from a 100-peso bill?

**TO**

13. A notebook costs P8.75 each. If Ana buys 8 notebooks, how much should she pay the cashier?

**MAKE**

14. Mrs. Reyes paid P147.50 for 3 bottles of shampoo. How much did each bottle cost?

**SOMETHING**

15. Janice receives an allowance of Php 25.50 a day. How much is her allowance for 5 days?

**YOU**

16. George bought a bicycle worth Php 1,200.75 and an airpump worth Php 435.25. How much change would he get if he gave the salesman Php 2,000?

**BAD**

17. Joseph’s coin purse contains 13 Php 0.25 and 5 Php 5. How much money does Joseph have in his coin purse?

**WILL**

---

<table>
<thead>
<tr>
<th>Php28.25</th>
<th>Php364</th>
<th>Php127.5</th>
<th>Php49.16</th>
<th>Php70</th>
<th>Php27.25</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6.47kg</th>
<th>902.1kg</th>
<th>Php 464.60</th>
<th>2193 km</th>
<th>22.2s</th>
<th>28.5</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>495</th>
<th>Php1250</th>
<th>Php129.60</th>
<th>275</th>
<th>18.35</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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Grade 5 Quarter 2 Learner’s Materials
Apply Your Skills!

Try solving more problems.

Read, analyze and solve the following problems. Pick the letter with the correct answer then arrange the letters to form the hidden word.

60  50  62.5  11.25  93.05

1. In a ballroom competition, Loui and Lyka scored 92.6, 94.8 and 91.75 on the first three dances they performed. To qualify for the finals, they need an average score of 93. What score do they need on their last dance to qualify for the finals? Y

2. When a greater number is divided by a lower number, the quotient is 20. If the lower number is tenths of 2.5, find the greater number. H

3. A boy bicycles 7.5 km in 40 minutes. Find his average speed in kilometer per hour. A

4. How many pieces of wire each 2.4 dm long can be cut from a roll of wire 15 m long? P

5. Before Mr. Ignacio drove for a trip next town, the gasoline tank of his car was 0.75 full. After the trip, he found out that the tank was 0.25 full and he had used 30 liters of gasoline. How many liters of gasoline can the tank hold when full? P
Lesson 48 M5NS-IIg-121.1

Creating Problems (with reasonable answers) Involving Multiplication and/or Division or With Any Other Operations of Decimals and Whole Numbers Including Money

Explore and Discover!

Can you make a word problem out of the picture?

Is the given picture enough to make a word problem?

What are the things/data you see for you to create a word problem?

Look at the given data below.

- Fastfood
- employees
- month

What other data do you need? You can consider the following data in creating a word problem.

- 1mo. → 30 days

Can you now complete the word problem be and solve for the correct answer, too. Do this in your notebook.

A ____________ restaurant spends Php 166 320 a ____________ to pay 18 ____________ . How much does each employee receive per day? In one year?
Get Moving!

Use the data inside the box to complete the problems below. Solve the problem in your notebook.

<table>
<thead>
<tr>
<th>Php 100</th>
</tr>
</thead>
<tbody>
<tr>
<td>5.75 kilometers</td>
</tr>
<tr>
<td>4 buyers</td>
</tr>
<tr>
<td>₱2.00</td>
</tr>
<tr>
<td>34.75 kg of tilapia</td>
</tr>
<tr>
<td>₱1.75</td>
</tr>
<tr>
<td>₱17.50</td>
</tr>
</tbody>
</table>

1. A kilogram of rice cost _______. How much change will I get if I buy ______________ and give the seller a ______________.

2. Aling Mercy bought ______________ at _______ each. She sold them at ________ each. How much was her profit?

3. A plastic pipe ______ will be divide into pieces of _____ each piece. How many pieces there be?

4. Mang Andy caught ___________________________ and ______________________ which he will equally sell among his _____________. How many kilograms of fish will each buyer get?

5. A hiker walked _______________________ in _______________. What was his average speed?
Keep Moving!

Study the story problems given below. Choose the best questions inside the circle that will complete each problem for what is asked. Then, solve the problem.

1. My 3 sisters and I contributed ₱175.00 each to buy a new water meter. A plumber charged us ₱250.00 for replacing the old one.
   Question: _________________________________________
   Solution and Answer:

2. Mila was able to sell 4 boxes of roses at ₱150.00 a box and half a dozen tulips at ₱45.00 per tulip.
   Question: _________________________________________
   Solution and Answer:

3. Mother repacked a 50-kg of sugar into 2.5 kg smaller packs.
   Question: _________________________________________
   Solution and Answer:

4. An iron pipe 24.36 ft long was divided into shorter pieces of 0.6 ft each.
   Question: _________________________________________
   Solution and Answer:

5. Father subdivided his 72.9 hectares of land into lots of 0.9 hectares each.
   Question: _________________________________________
   Solution and Answer:
Apply Your Skills!

Create a problem using the given data. Then solve the problem.

Given: 1.25kg - mass of a box of oranges

27 - boxes of oranges

Asked: total mass of the boxes

Problem: _____________________________

Solution and Answer:

2. Given: 0.8kg - weight of a packet of candies

50 packets of candies - total mass of candies sold

Asked: total mass of candies sold

Problem: _____________________________

Solution and Answer:

3. Given: 46.15 kg - weight of each sack of palay

21 - number of sacks

Asked: total load of the trailer

Problem: _____________________________

Solution and Answer:

4. Given: 152 - number of eggs

₱0.75 - earnings for each egg

Asked: earnings for a day

Problem: _____________________________

Solution and Answer:

5. Given: ₱ 5624.95 - total savings in March

Asked: amount of daily savings

Problem: _____________________________

Solution and Answer:
Visualizing the Ratio of 2 Given Numbers

Explore and Discover!

Emily cuts 2 squares for every 3 circles to make a design. The ratio 2 to 3 compares the number of squares to the number of circles Emily cuts.

Let us compare the number of squares and circles.

2:3

The number of squares is compared to the number of circles.

3:2

The number of circles is compared to the number of squares.

2:5

The number of squares is compared to the number of squares and circles together. This is a part to whole comparison.
Let us study further the following examples:

The ratio of the number of boys to girls is $\frac{2}{3}$.

What is the ratio of the price to the number of bananas?

$\underline{\text{________}} : \underline{\text{_______}}$

What is the ratio of the number of boys to the total number of boys and girls?

$\underline{\text{_______}} : \underline{\text{_______}}$

Get Moving!

<table>
<thead>
<tr>
<th></th>
<th>Part to part Comparison</th>
<th>Part to Whole Comparison</th>
<th>Whole to Part Comparison</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Image" /></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><img src="image2.png" alt="Image" /></td>
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<tr>
<td><img src="image3.png" alt="Image" /></td>
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<tr>
<td><img src="image4.png" alt="Image" /></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Keep Moving!

Use the set of pictures. Give the ratio of each. Write your answer on the space provided before each number.

1. \underline{______} to \underline{______}

2. \underline{______} to \underline{______}

3. \underline{______} to \underline{______}

4. \underline{______} to \underline{______}

5. \underline{______} to \underline{______}

\underline{______} 6. dogs to cats

\underline{______} 7. kangaroos to dogs

\underline{______} 8. chicken to all animals

\underline{______} 9. cats to all animals

\underline{______} 10. horse to dogs
Draw a picture to show the following:

11. a ratio of 3 to 4

12. a ratio of 5 to 6

13. a ratio of 10 to 2

14. a ratio of 2 to 24

Apply Your Skills!

Give the ratio of the following: Write your answer on the blank provided for each.

1. What is the ratio of the number of vowels to the number of consonants in the English Alphabet? ________________________

2. What is the ratio of the number of boys to the number of girls in your family member? ________________________

3. What is the ratio of the number of days to a week? ________________________

4. What is the ratio of a minute to seconds? ________________________

5. What is the ratio of the number of years to a decade?

Prepared by:
MARY JANE D. SALVADOR
Lesson 50. Visualizing ratio using the colon (:) or fraction.

Explore and Discover

Look at the illustration below. Observe that there are 4 apples and 18 bananas.

\[
\frac{\text{Apples}}{\text{Bananas}} = \frac{4}{18} \equiv 4:18
\]

This can be written in colon form as 4:18 or in fraction form as \(\frac{4}{18}\).

A ratio may be written in colon form, or fraction form.

Get Moving!

Color the figure and complete the table. Write the ratio in fraction or colon form.

<table>
<thead>
<tr>
<th>Shapes to Compare</th>
<th>Fraction Form</th>
<th>Colon form</th>
</tr>
</thead>
<tbody>
<tr>
<td>Triangle to square</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Circle to square</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Circle to triangle</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Triangle to total number of figures</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Square to total number of figures</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Keep Moving

Write the following ratio in fraction form and in colon form.

A Football team 5 out of 9 games played. There were no tie games.

Ratio of wins to games played ____________
Ratio of wins to losses___________
Ratio of losses to wins___________
Ratio of games played to wins___________
Ratio of losses to games played___________

Apply your skills.

Give the answer to the following: Write your answer on the space provided for each.

1. What is the ratio of the number of vowels to the number of consonants in the word ‘math”?

2. What is the ratio of vowels to all the letters of the Alphabet?

3. What is the ratio of even numbers less than 50 to odd numbers less than 50?

4. What is the ratio of multiples of 3 between 1 to 100 to all the numbers between 1 to 100?

5. A car travels 120 km. In 2 hours. What is the ratio of the distance to the time?
REFERENCE

GEAR UP MATHEMATICS 6, GEMILANG PUBLISHING GROUP; pp. 90

http://www.edhelper.com/math/ratios290.htm

http://www.google.com./images/
ANSWER KEY

Week 7 Lesson 1- Estimating the Quotients of Decimal Numbers with Reasonable Results

Get Moving

A. 1. 24, 6  
   2. 27,3  
   3. 48, 12  
   4. 300, 25  
   5. 600,30  
B. 1. 3  
   2. 10  
   3. 3  
   4. 6  
   5. 9  

Keep Moving

Compatible Numbers

a. 10  
b. 8  
c. 11  
d. 22  
e. 8  
f. 9  

Apply Your Skills!

A.  
a. 2.04 >2  
b. 8.15 >8  
c. 25.6>24.61  
d. 101.28<104  
e. 20.31>20  
B 1. P10  
   2. 35
Week 7 Lesson 2- Solving Routine and Non-Routine Problems Involving Division Without or With Any of the Other Operations of Decimals and Whole Numbers Including Money

Explore and Discover

1. Php 92.15
2. 11 days

Get Moving

1. Understand : 91.25 inches, 1.25 inches
   Plan : Division
   Solve : 91.25 inches / 1.25 inches
   Look Back : 73 pieces

2. Understand : ₱250.75.
   Plan : subtraction Division
   Solve : ₱250.75-P50= 200.75 ÷ 5
   Look Back : ₱40.15

3. Understand : 25m , 3.2 m
   Plan : division
   Solve : 25 ÷ 3.2
   Look Back : 7

4. Understand : P92.50in five days, P10.50
   Plan : division addition
   Solve : 92.50÷5= 18.50 + 10.50= 29
   Look Back : P29

5. Understand : Php114.75, 6 tumblers
   Plan : division
   Solve : 114.75÷6
   Look Back : P19.13

Keep Moving
Saying: WHEN SOMEONE HAS DONE SOMETHING GOOD TRYING TO GET REVENGE WILL ONLY MAKE THINGS WORSE.

Apply your Skills

HAPPY
Week 7 Lesson 3- Creating Problems (with reasonable answers) Involving Multiplication and/or Division or With Any Other Operations of Decimals and Whole Numbers Including Money

Get Moving

1. 17.50, 5 kilos, 100
2. 585, 1.75, 200
3. 24 ft, 0.3 ft
4. 34.75 kg of tilapia, 36.25 kg of bangus 4 buyers
5. 5.75 kilometers 1.25 hours

Keep Moving

1. How much money do we need to pay the plumber?
2. How much did she earn after selling all the roses and tulips?
3. How many packs of sugar did the mother have?
4. How many shorter pipes were made?
5. How many lots were subdivided from the land?
CONTENTS

1. Week 9
   Lesson 1- Identifying and Writing Equivalent Ratios
   Lesson 2- Expressing Ratios in their Simplest Forms
   Lesson 3- Finding the Missing Term in a Pair of Equivalent Ratios

2. Week 10
   Lesson 1: Defining and Describing a Proportion
   Lesson 2: Recognizing when Two Quantities are in Direct Proportion
Lesson 51: Identifying and Writing Equivalent Ratios  
M5NS-IIi-124

Explore and Discover!

Read.

To earn money during weekends, Lita sells pineapple juice at Plaza Lucero. For every two cans of juice, she adds five litres of water. How many litres of water will she need for six cans of juice so that the taste will be the same?

Find: 2 cans of juice, 6 cans of juice
5 litres of water, 2 litres of water

\[
\frac{2}{5} = \frac{6}{n}
\]

Think: \(\frac{2 \times 6}{5} = \frac{12}{15}\)  
Therefore: \(\frac{2}{5} = \frac{6}{15}\)

Answer: Lita needs 15 litres of water.

2 : 5 and 6 : 15 are equal ratios.

In equal ratios, the product of the means is equal to the product of the extremes. Using the equal ratios above, we can see that the product of the means, \(2 \times 15 = 30\), is equal to the product of the extremes, \(5 \times 6 = 30\).

Remember
To identify equal ratios, either multiply or divide each term in the ratio by the same number (but not zero).
Get Moving!

A. Encircle the ratio that is equal to the given ratio.
1. 4:8       a. 2:3    b. 1:2    c. 1:4
2. 15:20     a. 1:3    b. 2:4    c. 3:4
3. 6:18      a. 2:3    b. 1:3    c. 2:9
4. 18:45     a. 3:5    b. 2:5    c. 9:5
5. 7:21      a. 1:3    b. 2:3    c. 1:7

B. Put a check (√) if the ratios are equal and a cross (X) if they are not.

1)   3 , 8       6) 5 : 15 , 2 : 6
2    12

2)   1 , 18      7) 6 : 5 , 10 : 8
6    3

3)   3 , 7       8) 4 : 5 , 2 : 5
15   35

4)   4 , 10      9) 2 : 3 , 1 : 5
5    8

5)   18 , 12     10) 9 : 32 , 12 : 64
21   14

C. Express the ratio of the first quantity to the second quantity and reduce to simplest form.

1. 50 wins in 60 games
2. 14 days to 6 weeks
3. 8 books to 20 pupils
4. 42 garbage cans to 28 classroom
5. 4 jeep for 88 passengers
6. 12 decades to 2 century
7. 24 flower to 8 vases
8. 16 red marbles to 48 blue balls
9. 30 grade 5 pupils to 45 grade 6 pupils
10. 15 boxes to 150 oranges

Keep Moving!

A. Compare each ratio. Write = or ≠ in each circle.

1) 12 : 20  ○  9 : 15
   6) 8 : 10  ○  24 : 30
2) 5/10  ○  1/2
   7) 8/15  ○  2/5
3) 6/7  ○  75/100
   8) 10 : 13  ○  20 : 23
4) 15 : 12  ○  35 : 28
   9) 18 : 45  ○  2 : 5
5) 14 : 40  ○  9 : 24
   10) 60/100  ○  9/15

B. Fill in each box with the correct number that will make equivalent ratios.

1) 2 =15 : 5
   6) 5 : 3 =30 : 48
2) 6 : 12 = 6 : 10
   7) 35 : 20 = 20 : 8
3) 26 : 39 = 39 : 9
   8) 3 : 5 = 25 : 5
4) 5 : 6 = 5 : 36
   9) 5 : 30 = 30 : 18
5) 10 : 35 = 35 : 63
   10) 8 : 14 = 20 : 35

C. Give three or more equal ratios for each.

1. 2:5
2. 4:1
3. 2:14
4. 3:8
5. 10:12

D. Write the next three ratios by finding a pattern.

1. 1_2_4
   2_4_8
   3_6_12

2. 4_12_36

3. 9_12
Apply Your Skills!

Solve:

1. Dan and Noli played darts. Dan hit the target 10 times out of 5 throws. Noli hit the target 12 times out of 18 throws. How does the ratio 10:15 compare with 12:18?

2. During a basketball practice, Victor made 8 baskets for every 10 throws. How many baskets Mark make in 20 throws to equal Victor's performance?

3. A pupil attends only 3 out of every 4 days during a summer sports clinic. If the pupils attended 15 days, how many days did the summer sports clinic run?

4. In a bag of red and green sweets, the ratio of red sweets to green sweets is 3:4. If the bag contains 120 green sweets, how many red sweets are there?

5. Luis can read a 280 page book in 2 days. What is the ratio of page to days? Ratio of days to page?
### Explore and Discover!

**Sharon is a chess player. She played 32 games wherein she won 20 games and lost 12 games. How can we compare the games she won to the game she lost?**

We can write the ratios in the above problem as:

<table>
<thead>
<tr>
<th>Games Won to Games Lost</th>
<th>Number of Games to Games Won</th>
<th>Number of Games To Games Lost</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 to 12</td>
<td>32 to 20</td>
<td>32 to 12</td>
</tr>
<tr>
<td><strong>Lowest Terms</strong></td>
<td><strong>Lowest Terms</strong></td>
<td><strong>Lowest Terms</strong></td>
</tr>
<tr>
<td>20 / 12 = 5 / 3</td>
<td>32 is to 20 = 8 / 5</td>
<td>32 is to 12 = 8 / 3</td>
</tr>
</tbody>
</table>

**Interpretation**
- 5 is to 3 means that for every 5 games won 3 games were lost. 5 is to 3 is also the exact ratio.
- 8 is to 5 means that for every 8 games played there is a corresponding 5 games won. 8 is to 5 is also the exact ratio.
- 8 is to 3 means that for every 8 games played there is a corresponding 3 games lost. 8 is to 3 is also the exact ratio.

**Remember**
To express ratio in simplest form divide the numerator and denominator by a common factor until the two numbers have the number 1 as the only common factor.
Get Moving!

A. Write a ratio of the first quantity to the second quantity and reduce to simplest form.

1) 10 scouts to 40 doughnuts
2) 35 correct items to 50 items
3) 75 paper bills to 125 coins
4) 7 boys to 35 marbles
5) 9 seconds to 3 minutes

B. Reduce these ratios to lowest terms.

1) 15 : 3  4) 45
2) 30 : 6  30
3) 80 : 8  5) 18
5  9

Keep Moving!

A. Write a ratio for each of the following in simplest form.

1) 5 apples to 12 orange
2) 3 tables to 24 people
3) 2 jeep for 44 passengers
4) 4 days to 2 weeks
5) 15 years to 2 decades

B. Express each ratio as a fraction in lowest term.

1. 100  2. 50  3. 200  4. 120  5. 4
   10  100  2  6  400

Apply Your Skills!

A. Read each problem carefully and answer the questions that follow in simplest form.

1. In Lazaro Francisco Elementary School there are 258 boys out of 502 Grade 5 pupils.
   
   a. Find the ratio of boys to girls in Grade 5. ________
   
   b. Find the ratio of all boys to all Grade 5 pupils. ________
   
   c. Find the ratio of girls to all Grade 5 pupils. ________

2. A kinder teacher of Sumacab Elementary School has 96 balls in a box. Twenty-four balls are red, 18 are blue, 30 are green and the rest are yellow. Find the ratio of
   
   a. red balls to blue balls. ________
   
   b. red balls to green balls. ________
   
   c. green balls to yellow balls. ________
   
   d. green balls to red balls. ________
   
   e. red and blue balls to all the other balls. ________
   
   f. green and yellow balls to all the balls. ________

3. In the orchard of Mr and Mrs. Tonogbanua, there are 30 mango trees, 24 guava trees, 18 kalamansi trees and 20 chico trees. Find the ratio of the number of
   
   a. mango trees to guava trees. ________
   
   b. mango trees to chico trees. ________
   
   c. rambutan trees to kalamansi trees. ________
   
   d. mango and chico trees to all the trees. ________
   
   e. chico and rambutan trees to all the trees. ________

B. Use ratio to solve these problems.

1. For every family in Barangay Zulueta have 3 children. How many children are there if there are 120 families?

2. Mang Willie caught 2 kg of tilapia for every 3 kg of bangus. How many kilograms of bangus were caught if there were 6
3. A math club of Sumacab Elementary School has 36 members, of which 12 males and the rest are females. What is the ratio of males to all club members?

4. Noah drew 22 hearts and 76 circles. What is the ratio of circles to all shapes?

5. A group of grade 5 pupils in San Josef Elementary School has 63 boys and 27 girls. What is the ratio of boys to all the pupils?
Explore and Discover!

Read.

Sarah spends 45 minutes to study and do her homework in each academic subject. How much time does Sarah spend to study the 5 academic subjects.

Form a proportion.

Let \( n \) represent the total time spend studying the 5 academic subjects.

\[
\begin{align*}
\frac{45 \text{ minutes}}{1 \text{ subject}} &= \frac{n}{5} \\
1 \times n &= 45 \times 5 \\
n &= 225 \text{ minutes or 3 hours and 45 minutes}
\end{align*}
\]

Another Example:

If 2 kids can eat 12 cookies, how many can 8 kids eat?

\[
\begin{align*}
2 : 12 &= 8 : n \\
2 \times n &= 12 \times 8 \\
N &= \frac{12 \times 8}{2} \\
N &= 48 \text{ cookies}
\end{align*}
\]

Remember

To solve the missing term in a proportion, multiply the extremes and divide by the given mean or multiply the means and divide by the given extreme.
Get Moving!

A. Tell whether the following given ratios are proportions. Write YES if they are and NO if not.

1) \( \frac{4}{5} \) and \( \frac{28}{35} \)  
2) \( 18 : 45 \) and \( 4 : 12 \)  
3) \( \frac{20}{48} \) and \( \frac{15}{36} \)  
4) \( 3 : 21 \) and \( 6 : 40 \)  
5) \( 9 : 12 \) and \( 27 : 32 \)

B. Solve for the missing term in each proportion.

1) \( \frac{6}{n} = \frac{8}{12} \)  
2) \( \frac{n}{7} = \frac{6}{21} \)  
3) \( \frac{20}{24} = \frac{n}{6} \)  
4) \( \frac{n}{6} = \frac{28}{84} \)  
5) \( \frac{14}{21} = \frac{2}{n} \)

Keep Moving!

A. Find the missing term.

1) \( \frac{n}{24} = \frac{11}{12} \)  
2) \( \frac{44}{72} = \frac{n}{36} \)  
3) \( \frac{10}{n} = \frac{30}{33} \)  
4) \( \frac{45}{60} = \frac{15}{n} \)  
5) \( \frac{n}{33} = \frac{110}{165} \)

B. Solve for the missing term and check.

1) \( \frac{3}{n} = \frac{125}{25} \)  
2) \( \frac{90}{54} = \frac{n}{3} \)  
3) \( \frac{3}{n} = \frac{12}{16} \)  
4) \( n = \frac{32}{4} \)  
5) \( n = \frac{32}{24} \)
Apply Your Skills!

Solve for the missing term.

1. There are 48 pupils in a Grade V-Magsaysay of Lazaro Francisco Elementary School. During a tree planting day, they planted a total of 48 mahogany and narra seedlings. Each girl planted 3 mahogany seedlings and every three boys planted 1 narra seedling. Find how many mahogany and narra seedlings are planted by the students?

2. In a basket there are 4 guavas for every 5 oranges. How many guavas are there if there are 20 oranges?

3. From vacant lots, a group of children gathered 2 kg of tins for every 5 kg of plastic. How many kilograms of plastic were 10 kg of tins?

4. At a supermarket sale, 3 cans of milk cost ₱75.00. How many cans of milk did Grace pay for ₱300.00?

5. A box of 24 pieces of bread at NE Mall cost ₱144.00. How much will 8 pieces of bread cost?

6. If 12 guavas cost ₱120.00, how much 2 guavas cost?

7. A car travels 180 km in 3 hours. How far will it travel in 9 hours if it continues at the same speed?

8. If 3 kg of fertilizer will cover 150 square meters, how many
kilograms are needed for 900 square meters?

9. A pole 30 ft long casts a shadow of 20 ft. How tall is a nearby building which casts a 60-ft shadow?

10. In a test, Adrian correctly answered 9 out of 10 questions given. At this rate, how many correct answers will he get in a 30-item test?
Explore and Discover!

Read.

Aling Otya uses 6 kilos of pork to make 24 dozens of longganisa. What is the ratio of the number of longganisa to the number of pork used?

The ratio of longganisa to pork is 24 to 6 or 24:6.

We can form another ratio from 24:6 by reducing this to lowest terms.

\[
24:6 = 4:1
\]

How did we do this?

\[
\frac{24}{6} = \frac{4}{1}
\]

How do we check if the second ratio is proportional to the given ratio?

There are two parts in a proportion – the means and the extremes

\[
24 : 6 = 4 : 1
\]

Remember

Means refer to the inner terms in a proportion.
Extremes refer to the outer terms in a proportion.

The two ratios are proportional if the product of the extremes is equal to the product of the means. Thus, proportion means that two ratios are equal. To find proportion, we can use cross multiplication.
Get Moving!

A. Write **YES** if the pair of ratios form a proportion and **NO** if they do not.

1. 8:10, 40:50  
2. 1:3, 4:9  
3. 9:5, 18:10  
4. 7:2, 14:6  
5. 7:8, 49:56  
6. 8:4, 6:3  
7. 4:4, 8:6  
8. 3:6, 2:1  
9. 5:7, 6:9  
10. 12:16, 15:20

B. Check if each pair of ratios make a proportion by using cross-product

1. \[
\frac{4}{10} \cdot \frac{2}{5}
\]  
2. \[
\frac{9}{23} \cdot \frac{3}{21}
\]  
3. \[
\frac{14}{16} \cdot \frac{7}{8}
\]  
4. \[
\frac{9}{6} \cdot \frac{6}{4}
\]  
5. \[
\frac{2}{7} \cdot \frac{3}{8}
\]  
6. \[
\frac{6}{9} \cdot \frac{2}{3}
\]  
7. \[
\frac{1}{3} \cdot \frac{2}{5}
\]  
8. \[
\frac{6}{9} \cdot \frac{2}{3}
\]  
9. \[
\frac{18}{10} \cdot \frac{9}{5}
\]  
10. \[
\frac{5}{6} \cdot \frac{6}{7}
\]

C. Encircle the ratios that will make a proportion.

1. 5:2  
2. 7:4  
3. 2:7  
4. 3:14  
5. 2:4  
   a. 4:3  
   b. 10:4  
   c. 6:5  
   a. 10:2  
   b. 3:1  
   c. 5:1  
   a. 1:3  
   b. 7:21  
   c. 7:14  
   a. 4:7  
   b. 9:21  
   c. 3:7  
   a. 12:24  
   b. 3:15  
   c. 4:16

Keep Moving!

A. Which two ratios form a proportion? Check (✓) the blank before the number of the two ratios that form a proportion and cross out (X) those that are not.
B. Are the prices for each kind of seedlings that can be bought from the nursery in Bantog Norte Cabanatuan City the same or not?

1. Pechay Seedlings
   - 2 for ₱4.90
   - 10 for ₱24.50

2. Eggplant Seedlings
   - 3 for ₱4.50
   - 8 for ₱10.00

3. Tomato Seedlings
   - 20 for ₱1.80
   - 50 for ₱4.50

4. Radish Seedlings
   - 2 for ₱6.00
   - 7 for ₱21.00

C. Write a proportion and solve for the missing term.

1. The ratio of 8 to 12 is equal to the ratio of N to 36.
2. The ratio of N to 5 is equal to the ratio of 24 to 40.
3. The ratio of 6 to N is equal to the ratio of 12 to 18.
4. The ratio of 6 to N is equal to the ratio of 15 to 20.
5. The ratio of 49 to 56 is equal to the ratio of 7 to N.

Apply Your Skills!

A. Form proportions out of the following problems then solve for the answer.

1. Three boiled bananas at the canteen of Lazaro Francisco Elementary School sell for ₱21.00. How much do 12 pieces cost?
2. A motorist from Vijandre District travelled 480 km in 6 hours. At the same rate, how long will it take to travel 800 km?
3. During the Brigada Eskwela 2016 two volunteers from the NGO can paint 5 desks in 1 day. How many desks can 10 volunteers paint?

4. Catherine saves P120.00 in 4 weeks. At this rate, how long will it take her to save P900.00?

5. Leo and Lea bought tomato seedlings to plant in their garden in EPP. Leo got 18 seedlings for P24.00 while Lea got 54 seedlings for P72.00.

6. Letecia Uy Foundation donated P5.00 to the Philippine Breast Cancer Society for every Cupcake sold in June. A total of 10,520 cupcakes was sold. How much did Letecia Uy Foundation donate to the society?

7. If a car travels at a constant speed covering 308 km in 4 hours, how far will it travel in 7 hours at the same constant speed?

8. Three boxes No. 10 staple wires contain 3,000 staple wires. How many boxes are needed for 15,000 staple wires need?

9. If a water pump empties a 480 gallon tank in 10 minutes, how long will it take the pump to empty a 720-gallon tank?

10. Suzette has played 20 games of scrabble with her friends. She has won 12 games. At this rate, how many times can Suzette expect to win if she plays 30 games?
Explore and Discover!

Read.

Arthur and Cathy sell newspapers on weekend to earn extra money. For every 3 newspapers that Arthur sells, Cathy sells 5. If Arthur sold 15 newspapers, how many does Cathy sell?

Solution 1:
Illustrate the problem.

Arthur → 3 = 15 or Arthur: Cathy = Arthur:Cathy
Cathy → 5  N

Through illustration, it is clear that for every 15 newspapers that Arthur sold, Cathy was able to sell 25 newspapers.

Solution 2:
Set up a proportion

Arthur → 3  = 15:5 or Arthur: Cathy = Arthur:Cathy
Cathy → 5  N

Computing for the proportion: 3:5=15:N
3N=15×5
3N=75
N=25 newspapers

For every 15 newspapers that Arthur sells, Cathy sells 25 newspapers.

Remember

A proportion said to be direct if:

a. As one term increases, the other term increases at the same rate; or

b. As one term decreases, the other term decreases as the same rate.
Get Moving!

A. Put a check (/) on the box if the proportion shows direct proportion and put a cross (x) if it doesn’t.

1. 30:18 = 36:15
2. 9:2 = 3:1
3. 5:3 = 25:15
4. 4:15 = 12:45
5. 5:4 = 2:8
6. 6:3 = 18:9
7. 4:5 = 12:20
8. 9:2 = 18:4
9. 2:4 = 8:16
10. 5:6 = 10:15

B. Box the ratios showing direct proportion.

1. 5:12 = 15:8
2. 7:10 = 21:15
3. 1:3 = 2:6
4. 3:2 = 2:4
5. 8:10 = 3:5
6. 4:24 = 6:9
7. 5:4 = 15:9
8. 3:5 = 6:4
9. 6:4 = 15:20
10. 5:7 = 10:6

Keep Moving!

A. Draw a happy face if it shows direct proportion and a sad face if not.

1. Three pieces of bond paper cost P3.00 while 36 pieces of pad paper cost P21.00.
2. Four colored pencils cost P25.00 while 5 colored pencils P20.00.
3. Two boiled bananas cost P7.00 while 6 boiled bananas cost P21.00.
4. Three teachers for every 125 pupils: 5 teachers for every 100 pupils.
5. A motorist travels 275 km in 5 hours and continue traveling at 140 km for 2 hours.
B. Analyze and solve.

1) An assembly line produces 75 cars per day. How many cars can it produce in 5 days?
   Proportion: ________________________________
   Answer: ______________________________________

2) Angela assembles 55 sets of headlights a day. How many sets can she assemble in 10 days?
   Proportion: ________________________________
   Answer: ______________________________________

3) Jason and Angel install car seats. They can work on 5 cars in 75 minutes. How long does it take them to install the seats per car?
   Proportion: ________________________________
   Answer: ______________________________________

4) A machine can paint 72 cars every 2 hours. How many cars does it paint per half-hour?
   Proportion: ________________________________
   Answer: ______________________________________

5) Leo spends 350 minutes every week to drive to and from work. How many minutes does it take him to drive to and from work in one day? (Assume a 5-day working week.)
   Proportion: ________________________________
   Answer: ______________________________________

Apply Your Skills!

Solve using direct proportion.

1. Lemuel can clean a room in 22 minutes. How long will it take him to clean 7 rooms?
2. Oliver can repair 18 umbrellas in 6 hours. If he works for 10 hours, how many umbrellas could he repair?
3. 375 grams of flour makes 18 servings of banana muffin. How many grams of flour would be needed to make 9 servings of banana muffin?
4. Ava is in charge of making halo-halo in Joeys Restaurant at SM Cabanatuan. It takes 5 minutes to make 2 halo-halo. A costumer drops by to order 8 halo-halo. After how many minutes should the costumer comeback to pick up his order?
5. By helping in the family’s gas station on Saturday and Sunday, Paulo earned ₱340.00. How many Saturdays and
Sundays should Paulo work in order to save ₱1200.00 for his field trip.

6. A ratio of number of boys to girls in a classroom is 6:5. If there are a total of 48 boys in the classroom, find the number of girls in the classroom.

7. 44 lbs of bananas cost ₱220. How many lbs of bananas can you get with ₱245?

8. 4 kg of apples cost ₱44. How many kilograms of apples can you get with ₱121?

9. A tricycle can travel 100 km on 50 gallons of gasoline. How far can it travel on 241 gallons?

10. A car travels 324 km in 10 hours (with a constant speed). How far can it travel in 7 hours (with the same speed)?
Lesson 51: Identifying and Writing Equivalent Ratios

Explore and Discover!

Read.

To earn money during weekends, Lita sells pineapple juice at Plaza Lucero. For every two cans of juice, she adds five litres of water. How many litres of water will she need for six cans of juice so that the taste will be the same?

Find: 2 cans of juice : 5 litres of water
6 cans of juice : 2 litres of water

\[
\frac{2}{5} = \frac{6}{n}
\]

Think: \[
\frac{2 \times 6}{5} = \frac{2 \times 6}{15}
\]

Therefore: \[
\frac{2}{5} = \frac{6}{15}
\]

Answer: Lita needs 15 litres of water.

2 : 5 and 6 : 15 are equal ratios.

In equal ratios, the product of the means is equal to the product of the extremes. Using the equal ratios above, we can see that the product of the means, \(2 \times 15 = 30\), is equal to the product of the extremes, \(5 \times 6 = 30\).

Remember

To identify equal ratios, either multiply or divide each term in the ratio by the same number (but not zero).

Analiza C. Bernabe
Get Moving!

A. Encircle the ratio that is equal to the given ratio.

1. 4:8  a. 2:3  b. 1:2  c. 1:4
2. 15:20  a. 1:3  b. 2:4  c. 3:4
3. 6:18  a. 2:3  b. 1:3  c. 2:9
4. 18:48  a. 3:8  b. 2:5  c. 9:5
5. 7:21  a. 1:3  b. 2:3  c. 1:7

B. Put a check ( √ ) if the ratios are equal and a cross ( X ) if they are not.

1) \[ \frac{3}{2}, \frac{8}{12} \]  6) \[ 5:15, 2:6 \]
2) \[ \frac{1}{6}, \frac{18}{3} \]  7) \[ 6:5, 10:8 \]
3) \[ \frac{3}{15}, \frac{7}{35} \]  8) \[ 4:5, 2:5 \]
4) \[ \frac{4}{5}, \frac{12}{20} \]  9) \[ 3:6, 3:9 \]
5) \[ \frac{18}{21}, \frac{12}{14} \]  10) \[ 9:32, 12:64 \]

C. Express the ratio of the first quantity to the second quantity.

1. 50 wins in 60 games
2. 14 days to 6 weeks
3. 8 books to 20 pupils
4. 42 garbage cans to 28 classroom
5. 4 jeep for 88 passengers
6. 12 decades to 2 century
7. 24 flower to 8 vases
8. 16 red marbles to 48 blue balls

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9. 30 grade 5 pupils to 45 grade 6 pupils

10. 15 boxes to 150 oranges

**Keep Moving!**

A. Compare each ratio. Write = or ≠ in each □.

1) 12 : 20 □ 9 : 15
2) 5/10 □ 1/2
3) 6/7 □ 75/100
4) 15 : 12 □ 35 : 28
5) 14 : 40 □ 9 : 24

B. Fill in each box with the correct number that will make equivalent ratios.

1) □ : 2 = 15 : 5
2) 6 : 12 = □ : 10
3) 26 : □ = 39 : 9
4) 5 : 6 = □ : 36
5) 10 : □ = 35 : 63

C. Give three or more equal ratios for each.

1. 2:5
2. 4:1
3. 2:14
4. 3:8
5. 10:12

D. Write the next three ratios by finding a pattern.

1. 1 2 4
2 4 8

2. 4 12 36

3. 9 12

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Grade 5 Quarter 2 Learner's Materials
Apply Your Skills

Solve:

1. Dan and Noli played darts. Dan hit the target 10 times out of 5 throws. Noli hit the target 12 times out of 18 throws. How does the ratio 10:15 compare with 12:18?

2. During a basketball practice, Victor made 8 baskets for every 10 throws. How many baskets Mark make in 20 throws to equal Victor's performance?

3. A pupil attends only 3 out of every 4 days during a summer sports clinic. If the pupils attended 15 days, how many days did the summer sports clinic run?

4. In a bag of red and green sweets, the ratio of red sweets to green sweets is 3:4. If the bag contains 120 green sweets, how many red sweets are there?

5. Luis can read a 280 page book in 2 days. What is the ratio of page to days? Ratio of days to page?
Lesson: Finding the Missing Term in a Pair of Equivalent Ratios

Read.

Sarah spends 45 minutes to study and do her homework in each academic subject. How much time does Sarah spend to study the 5 academic subjects.

Form a proportion.

Let $n$ represent the total time spend studying the 5 academic subjects.

$$\frac{45 \text{ minutes}}{1 \text{ subject}} : n \quad 5$$

Multiply the means, 1 and $n$

Multiply the extremes, 45 and 5

Divide

$$1 \times n = 45 \times 5$$

$$n = 225 \text{ minutes or 3 hours and 45 minutes}$$

Another Example:

If 2 kids can eat 12 cookies, how many can 8 kids eat?

$$2:12 = 8 : n$$

Multiply the extremes, 2 & $n$

Multiply the means, 12 and 8

Divide

$$2 \times n = 12 \times 8$$

$$n = 48 \text{ cookies}$$

Remember

To solve the missing term in a proportion, multiply the extremes and divide by the given mean or multiply the means and divide by the given extreme.

Analiza C. Bernabe
Get Moving!

A. Tell whether the following given ratios are proportions. Write YES if they are and NO if not.

1. \( \frac{4}{5} \) and \( \frac{28}{35} \)  
2. \( 18:45 \) and \( 4:12 \)  
3. \( \frac{20}{48} \) and \( \frac{15}{36} \)  
4. \( 3:21 \) and \( 6:40 \)  
5. \( 9:12 \) and \( 27:32 \)

B. Solve for the missing term in each proportion.

1. \( 6:n = 8:12 \)  
2. \( n:7 = 6:21 \)  
3. \( 20:24 = n:6 \)  
4. \( n:6 = 28:84 \)  
5. \( 14:21 = 2:n \)  
6. \( 15:45 = 3:n \)  
7. \( 45:90 = n:8 \)  
8. \( n:36 = 10:18 \)  
9. \( n:100 = 19:20 \)  
10. \( 3:n = 15:40 \)

Keep Moving!

A. Find the missing term.

1) \( \frac{n}{24} = \frac{11}{12} \)  
2) \( \frac{44}{72} = \frac{n}{36} \)  
3) \( \frac{10}{n} = \frac{30}{33} \)  
4) \( \frac{45}{60} = \frac{15}{n} \)  
5) \( \frac{n}{33} = \frac{110}{165} \)

B. Solve for the missing term and check.

1) \( \frac{3}{n} = \frac{125}{25} \)  
2) \( \frac{3}{n} = \frac{12}{16} \)
2) \( \frac{90}{54} = \frac{n}{3} \)  
7) \( \frac{n}{4} = \frac{32}{24} \)  

3) \( \frac{n}{7} = \frac{8}{14} \)  
8) \( \frac{3}{4} = \frac{n}{12} \)  

4) \( \frac{2}{5} = \frac{n}{30} \)  
9) \( \frac{4}{24} = \frac{6}{n} \)  

5) \( \frac{5}{4} = \frac{15}{n} \)  
10) \( \frac{n}{4} = \frac{15}{20} \)  

---

**Apply Your Skills!**

Solve for the missing term.

1. There are 48 pupils in a Grade V-Magsaysay of Lazaro Francisco Elementary School. During a tree planting day, they planted a total of 48 mahogany and narra seedlings. Each girl planted 3 mahogany seedlings and every three boys planted 1 narra seedling. Find how many mahogany and narra seedlings are planted by the students?

2. In a basket there are 4 guavas for every 5 oranges. How many guavas are there if there are 20 oranges?

3. From vacant lots, a group of children gathered 2 kg of tins for every 5 kg of plastic. How many kilograms of plastic were 10 kg of tins?

4. At a supermarket sale, 3 cans of milk cost ₱75.00. How many cans of milk did Grace pay for ₱300.00?

5. A box of 24 pieces of bread at NE Mall cost ₱144.00. How much will 8 pieces of bread cost?

6. If 12 guavas cost ₱120.00, how much 2 guavas cost?

7. A car travels 180 km in 3 hours. How far will it travel in 9 hours if it continues at the same speed?

8. If 3 kg of fertilizer will cover 150 square meters, how many
kilograms are needed for 900 square meters?

9. A pole 30 ft long cast a shadow of 20 ft. How tall is a nearby building which cast a 60-ft shadow?

10. In a test, Adrian correctly answered 9 out of 10 questions given. At this rate, how many correct answers will he get in 30-item test?
Lesson: Expressing Ratios in their Simplest Forms

M5NS-III-125

Explore and Discover!

Read.

Sharon is a chess player. She played 32 games wherein she won 20 games and lost 12 games. How can we compare the games she won to the game she lost?

We can write the ratios in the above problem as:

<table>
<thead>
<tr>
<th>Games Won to Games Lost</th>
<th>Number of Games to Games Won</th>
<th>Number of Games To Games Lost</th>
</tr>
</thead>
<tbody>
<tr>
<td>20 to 12</td>
<td>32 to 20</td>
<td>32 to 12</td>
</tr>
<tr>
<td><strong>Lowest Terms</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20 (\div) 5 or 5 is to 3</td>
<td>32 is to 20 (\div) 8 or 8 is to 5</td>
<td>32 is to 12 (\div) 8 or 8 is to 3</td>
</tr>
<tr>
<td><strong>Interpretation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 is to 3 means that for every 5 games won 3 games were lost. 5 is to 3 is also the exact ratio</td>
<td>8 is to 5 means that for every 8 games played there is a corresponding 5 games won. 8 is to 5 is also the exact ratio.</td>
<td>8 is to 3 means that for every 8 games played there is a corresponding 3 games lost. 8 is to 3 is also the exact ratio</td>
</tr>
</tbody>
</table>

Remember

To express ratio in simplest form divide the numerator and denominator by a common factor until the two numbers have the number 1 as the only common factor

Analiza C. Bernabe
Get Moving!

A. Write a ratio of the first quantity to the second quantity and reduce to simplest form.

1. 10 scouts to 40 doughnuts
2. 35 correct items to 50 items
3. 75 paper bills to 125 coins
4. 7 boys to 35 marbles
5. 9 seconds to 3 minutes

B. Express each ratio as fraction in lowest term

1. 5 : 20
2. 6 : 18
3. 12 : 4
4. 21 : 7
5. 4 : 48
6. 48 : 6
7. 3 : 39
8. 75 : 3
9. 3 : 45
10. 51 : 85

Keep Moving!

A. Write a ratio for each of the following in simplest form.

1. 5 apples to 12 orange
2. 3 tables to 24 people
3. 2 jeep for 44 passengers
4. 4 days to 2 weeks
5. 15 years to 2 decades

B. Express each ratio as a fraction in lowest term.

1. \( \frac{100}{10} \)
2. \( \frac{50}{100} \)
3. \( \frac{200}{2} \)
4. \( \frac{120}{6} \)
5. \( \frac{4}{400} \)
6. 14 : 10
7. 6 : 9
8. 12 : 18
9. 24 : 16
10. 20 : 4

C. Refer to the picture at the right to answer the following questions.
1. What is the ratio of shaded triangles to unshaded triangles?

2. What is the ratio of stars to all the squares?

3. What is the ratio of all circles to all the squares?

4. What is the ratio of circles to all circles?

5. What is the ratio of all squares to all the other shapes in the circle?

Apply Your Skills!

A. Read each problem carefully and answer the questions that follow in simplest form.

1. In Lazaro Francisco Elementary School there are 258 boys out of 502 Grade 5 pupils.
   a. Find the ratio of boys to girls in Grade 5.________
   b. Find the ratio of all boys to all Grade 5 pupils._______
   c. Find the ratio of girls to all Grade 5 pupils._____

2. A kinder teacher of Sumacab Elementary School has 96 balls in a box.
   Twenty-four balls are red, 18 are blue, 30 are green and the rest are yellow. Find the ratio of
   a. red balls to blue balls. _______
   b. red balls to green balls. _______
   c. green balls to yellow balls. ______
   d. green balls to red balls. _______
   e. red and blue balls to all the other balls.________
   f. green and yellow balls to all the balls. _______

3. In the orchard of Mr and Mrs. Tonogbanua, there are 30 mango trees, 24 guava trees, 18 kalamansi trees and 20 chico trees. Find the ratio of the number of
   a. mango trees to guava trees. _______
   b. mango trees to chico trees. _______
   c. rambutan trees to kalamansi trees. _______
   d. mango and chico trees to all the trees. _______
   e. chico and rambutan trees to all the trees._______
B. Use ratio to solve these problems.

1. For every family in Barangay Zulueta have 3 children. How many children are there if there are 120 families?

2. Mang Willie caught 2 kg of tilapia for every 3 kg of bangus. How many kilograms of bangus were caught if there were 6 kg of tilapia.

3. A math club of Sumacab Elementary School has 36 members, of which 12 males and the rest are females. What is the ratio of males to all club members?

4. Noah drew 22 hearts and 76 circles. What is the ratio of circles to all shapes?

5. A group of grade 5 pupils in San Josef Elementary School has 63 boys and 27 girls. What is the ratio of boys to all the pupils?
Lesson: Defining and Describing a Proportion

Explore and Discover!
Read.

Aling Otya uses 6 kilos of pork to make 24 dozens of longanisa. What is the ratio of the number of longanisa to the number of pork used?

The ratio of longanisa to pork is 24 to 6 or 24:6.

We can form another ratio from 24:6 by reducing this to lowest terms.

\[
\frac{24}{6} = \frac{4}{1}
\]

How did we do this?

\[
\frac{24}{6} = \frac{4}{1}
\]

How do we check if the second ratio is proportional to the given ratio?

There are two parts in a proportion – the means and the extremes

\[
\frac{24}{6} = \frac{4}{1}
\]

Remember

Means refer to the inner terms in a proportion.
Extremes refer to the outer terms in a proportion.

The two ratios are proportional if the product of the extremes is equal to the product of the means. Thus, proportion means that two ratios are equal. To find proportion, we can use cross multiplication.

Analiza C. Bernabe
Get Moving!

A. Write YES if the pair of ratios form a proportion and NO if they do not.

1. 8:10, 40:50  
2. 1:3, 4:9  
3. 9:5, 18:10  
4. 7:2, 14:6  
5. 7:8, 49:56  
6. 8:4, 6:3  
7. 4:4, 8:6  
8. 3:6, 2:1  
9. 5:7, 6:9  
10. 12:16, 15:20

B. Check if each pair of ratios make a proportion by using cross-product

1. \(\frac{4}{10} \div \frac{2}{5}\)  
2. \(\frac{9}{23} \div \frac{3}{7}\)  
3. \(\frac{14}{16} \div \frac{7}{8}\)  
4. \(\frac{9}{6} \div \frac{6}{4}\)  
5. \(\frac{2}{7} \div \frac{3}{8}\)

6. \(\frac{6}{9} \div \frac{2}{3}\)  
7. \(\frac{1}{23} \div \frac{2}{1}\)  
8. \(\frac{6}{16} \div \frac{2}{8}\)  
9. \(\frac{18}{6} \div \frac{9}{4}\)  
10. \(\frac{5}{7} \div \frac{6}{8}\)

C. Encircle the ratios that will make a proportion.

1. 5:2  
2. 7:4  
3. 2:7  
4. 3:14  
5. 2:4  

a. 4:3  

b. 10:4  
c. 6:5  
b. 3:1  
c. 5:1  
b. 7:12  
c. 7:14  
b. 9:21  
c. 3:7  
b. 12:24  
c. 3:15  
c. 4:16

Keep Moving!

A. Which two ratios form a proportion? Check (√) the blank before the number of the two ratios that form a proportion and cross out (X) those that are not.

_____ 1) 1 : 2 = 2 : 4  
_____ 11) 13 : 9 = 26 : 19  
_____ 2) 3 : 6 = 6 : 12  
_____ 12) 18 : 32 = 36 : 96  
_____ 3) 4 : 2 = 2 : 4  
_____ 13) 7 : 13 = 49 : 91

Grade 5 Quarter 2 Learner’s Materials
B. Are the prices for each kind of seedlings that can be bought from the nursery in Bantog Norte Cabanatuan City the same or not?

1. Pechay Seedlings
   - 2 for ₱4.90
   - 10 for ₱24.50

2. Eggplant Seedlings
   - 3 for ₱4.50
   - 8 for ₱10.00

3. Tomato Seedlings
   - 20 for ₱1.80
   - 50 for ₱4.50

4. Radish Seedlings
   - 2 for ₱6.00
   - 7 for ₱21.00

C. Write a proportion and solve for the missing term.

1. The ratio of 8 to 12 is equal to the ratio of N to 36.
2. The ratio of N to 5 is equal to the ratio of 24 to 40.
3. The ratio of 6 to N is equal to the ratio of 12 to 18.
4. The ratio of 6 to N is equal to the ratio of 15 to 20.
5. The ratio of 49 to 56 is equal to the ratio of 7 to N.

---

Apply Your Skills!

A. Form proportions out of the following problems then solve for the answer.

1. Three boiled bananas at the canteen of Lazaro Francisco Elementary School sell for ₱21.00. How much do 12 pieces cost?
2. A motorist from Vijandre District travelled 480 km in 6 hours. At the same rate, how long will it take to travel 800 km?
3. During the Brigada Eskwela 2016 two volunteers from the NGO can paint 5 desks in 1 day. How many desks can 10 volunteers paint?
4. Catherine saves P120.00 in 4 weeks. At this rate, how long will it take her to save P900.00?

5. Leo and Lea bought tomato seedlings to plant in their garden in EPP. Leo got 18 seedlings for P24.00 while Lea got 54 seedlings for P72.00.

6. Leticia Uy Foundation donated P5.00 to the Philippine Breast Cancer Society for every cupcake sold in June. A total of 10,520 cupcakes was sold. How much did Leticia Uy Foundation donate to the society?

7. If a car travels at a constant speed covering 308 km in 4 hours, how far will it travel in 7 hours at the same constant speed?

8. Three boxes No. 10 staple wires contain 3,000 staple wires. How many boxes are needed for 15,000 staple wires need?

9. If a water pump empties a 480 gallon tank in 10 minutes, how long will it take the pump to empty a 720-gallon tank?

10. Suzette has played 20 games of scrabble with her friends. She has won 12 games. At this rate, how many times can Suzette expect to win if she plays 30 games?
Lesson: Recognizing when Two Quantities are in Direct Proportion

M5NS-IIj-128

Explore and Discover!

Read.

Arthur and Cathy sell newspapers on weekend to earn extra money. For every 3 newspapers that Arthur sells, Cathy sells 5. If Arthur sold 15 newspapers, how many does Cathy sell?

Solution 1:
Illustrate the problem.

Through illustration, it is clear that for every 15 newspapers that Arthur sold, Cathy was able to sell 25 newspapers.

Solution 2:
Set up a proportion

Arthur → 3 =15  or  Arthur: Cathy= Arthur:Cathy
Cathy → 5 N

Computing for the proportion: 3:5=15:N
3N=15×5
3N= 75
3
N= 25 newspapers

For every 15 newspapers that Arthur sells, Cathy sells 25 newspapers.

Remember

A proportion said to be direct if:

a. as one term increases, the other term increases at the same rate; or
b. as one term decreases, the other term decreases as the same rate.
Get Moving!

A. Put a check (/) on the box if the proportion shows direct proportion and put a cross (x) if it doesn’t.

1. 30:18 = 36:15
2. 9:2 = 3:1
3. 5:3 = 25:15
4. 4:15 = 12:45
5. 5:4 = 2:8
6. 6:3 = 18:9
7. 7:4:5 = 12:20
8. 8:9:2 = 18:4
9. 2:4 = 8:16
10. 5:6 = 10:15

B. Box the ratios showing direct proportion.

1. 5:12 = 15:8
2. 7:10 = 21:15
3. 1:3 = 2:6
4. 3:2 = 2:4
5. 8:10 = 3:5
6. 4:24 = 6:9
7. 5:4 = 15:9
8. 3:5 = 6:4
9. 6:4 = 15:20
10. 5:7 = 10:6

Keep Moving!

A. Draw a happy face if it shows direct proportion and a sad face if not.

1. Three pieces of bond paper cost P3.00 while 36 pieces of pad paper cost P21.00.
2. Four colored pencils cost P25.00 while 5 colored pencils cost P20.00.
3. Two boiled bananas cost P7.00 while 6 boiled bananas cost P21.00.
4. Three teachers for every 125 pupils: 5 teachers for every 100 pupils.
5. A motorist travels 275 km in 5 hours and continue traveling at 140 km for 2 hours.

Analiza C. Bernabe
B. Analyze and solve.

1) An assembly line produces 75 cars per day. How many cars can it produce in 5 days?
   Proportion: __________________________________________________
   Answer: ______________________________________________________

2) Angela assembles 55 sets of headlights a day. How many sets can she assemble in 10 days?
   Proportion: __________________________________________________
   Answer: ______________________________________________________

3) Jason and Angel install car seats. They can work on 5 cars in 75 minutes. How long does it take them to install the seats per car?
   Proportion: __________________________________________________
   Answer: ______________________________________________________

4) A machine can paint 72 cars every 2 hours. How many cars does it paint per half-hour?
   Proportion: __________________________________________________
   Answer: ______________________________________________________

5) Leo spends 350 minutes every week to drive to and from work. How many minutes does it take him to drive to and from work in one day?
   (Assume a 5-day working week.)
   Proportion: __________________________________________________
   Answer: ______________________________________________________

Apply Your Skills!

Solve using direct proportion.

1. Lemuel can clean a room in 22 minutes. How long will it take him to clean 7 rooms?
2. Oliver can repair 18 umbrellas in 6 hours. If he works for 10 hours, how many umbrellas could he repair?
3. 375 grams of flour makes 18 servings of banana muffin. How many grams of flour would be needed to make 9 servings of banana muffin?
4. Ava is in charge of making halo-halo in Joeys Restaurant at SM Cabanatuan. It takes 5 minutes to make 2 halo-halo. A costumer drops by to order 8 halo-halo. After how many minutes should the costumer comeback to pick up his order?
5. By helping in the family's gas station on Saturday and Sunday, Paulo earned ₱340.00. How many Saturdays and Sundays should Paulo work in order to save ₱1200.00 for his field trip.

6. A ratio of number of boys to girls in a classroom is 6:5. If there are a total of 48 boys in the classroom, find the number of girls in the classroom.

7. 44 lbs of bananas cost ₱220. How many lbs of bananas can you get with ₱245?

8. 4 kg of apples cost ₱44. How many kilograms of apples can you get with ₱121?

9. A tricycle can travel 100 km on 50 gallons of gasoline. How far can it travel on 241 gallons?

10. A car travels 324 km in 10 hours (with a constant speed). How far can it travel in 7 hours (with the same speed)?
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