

Name _____ Date _____

Grade 6: Mathematics 6 Summer Assignment

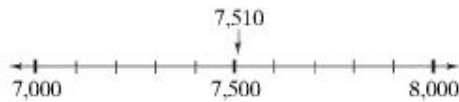
Review the following examples and answer the questions.

Rounding Whole Numbers

You can use number lines to help you round numbers.

EXAMPLE

- 1 a. Round 7,510 to the nearest thousand.



7,510 is between 7,000 and 8,000.

- 7,510 rounds to 8,000.

- b. Round 237 to the nearest ten.



237 is between 230 and 240.

- 237 rounds to 240.

To round a number to a particular place, look at the digit to the right of that place. If the digit is less than 5, round down. If the digit is 5 or more, round up.

EXAMPLE

- 2 Round to the place of the underlined digit.

- a. 3,463,280

The digit to the right of the 6 is 3,
so 3,463,280 rounds down to 3,460,000.

- b. 289,543

The digit to the right of the 9 is 5,
so 289,543 rounds up to 290,000.

Round to the nearest ten

1. 42 _____ 2. 671 _____ 3. 3,482 _____

Round to the nearest thousand.

4. 5,800 _____ 5. 44,500 _____ 6. 987 _____

Review the following examples and answer the questions.

Multiplying Whole Numbers

When you multiply by a two-digit number, first multiply by the ones and then multiply by the tens. Add the products.

EXAMPLE

1 Multiply 62×704 .

Step 1

$$\begin{array}{r} 704 \\ \times 62 \\ \hline 1408 \end{array}$$

Step 2

$$\begin{array}{r} 704 \\ \times 62 \\ \hline 1408 \\ 42240 \end{array}$$

Step 3

$$\begin{array}{r} 704 \\ \times 62 \\ \hline 1408 \\ + 42240 \\ \hline 43,648 \end{array}$$

EXAMPLE

2 Find each product.

a. 93×6

$$\begin{array}{r} 93 \\ \times 6 \\ \hline 558 \end{array}$$

b. 25×48

$$\begin{array}{r} 48 \\ \times 25 \\ \hline 240 \\ + 960 \\ \hline 1,200 \end{array}$$

c. 80×921

$$\begin{array}{r} 921 \\ \times 80 \\ \hline 73,680 \end{array}$$

1.) 98×4

2.) 816×76

3.) 603×3

4.) 65×8

Review the following examples and answer the questions.

Multiplying and Dividing Whole Numbers by 10, 100, and 1,000

Basic facts and patterns can help you when multiplying and dividing whole numbers by 10, 100, and 1,000.

$$8 \times 1 = 8$$

$$8 \times 10 = 80$$

$$8 \times 100 = 800$$

$$8 \times 1,000 = 8,000$$

Count the number of ending zeros.

The product will have this many zeros.

$$5,000 \div 1 = 5,000$$

$$5,000 \div 10 = 500$$

$$5,000 \div 100 = 50$$

$$5,000 \div 1,000 = 5$$

Count the zeros in the divisor.

If possible, remove this many zeros from the dividend. This number will be the quotient.

EXAMPLE

Multiply or divide.

a. $77 \times 1,000$

$77,000$ ← Insert three zeros.

b. $430 \div 10$

43 ← Remove one zero.

1.) 85×100

2.) 97×10

3.) $19 \times 1,000$

4.) $78,000 \div 1,000$

5.) $90 \div 10$

6.) $8,000 \div 100$

Review the following examples and answer the questions.

Dividing Whole Numbers

First estimate the quotient by rounding the divisor, the dividend, or both. When you divide, after you bring down a digit, you must write a digit in the quotient.

EXAMPLE

Find each quotient.

a. $741 \div 8$

Estimate:

$$720 \div 8 \approx 90$$

$$\begin{array}{r} 92 \text{ R}5 \\ 8 \overline{)741} \\ \underline{-72} \\ 21 \\ \underline{-16} \\ 5 \end{array}$$

b. $838 \div 43$

Estimate:

$$800 \div 40 \approx 20$$

$$\begin{array}{r} 19 \text{ R}21 \\ 43 \overline{)838} \\ \underline{-43} \\ 408 \\ \underline{-387} \\ 21 \end{array}$$

c. $367 \div 9$

Estimate:

$$360 \div 9 \approx 40$$

$$\begin{array}{r} 40 \text{ R}7 \\ 9 \overline{)367} \\ \underline{-360} \\ 7 \end{array}$$

1.) $8 \overline{)53}$

2.) $7 \overline{)90}$

3.) $3 \overline{)84}$

4.) $8 \overline{)645}$

5.) $9 \overline{)231}$

6.) $6 \overline{)469}$

7.) $3 \overline{)653}$

8.) $4 \overline{)61}$

Review the following examples and answer the questions.

Place Value and Decimals

Each digit in a decimal has both a place and a value. The value of any place is one tenth the value of the place to its left. In the chart below, the digit 5 is in the hundredths place. So its value is 5 hundredths.

thousands	hundreds	tens	ones	.	tenths	hundredths	thousandths	ten-thousandths	hundred-thousandths
2	8	3	6	.	7	5	0	1	4

EXAMPLE

a. In what place is the digit 8?

hundreds

b. What is the value of the digit 8?

8 hundreds

Write the value of the digit 6 in each number.

1. 0.016

2. 13.672

3. 6,025.9

4. 1.20641

5. 1,613.54

6. 26.34

Review the following examples and answer the questions.

Multiplying Decimals

When you multiply decimals, first multiply as if the factors were whole numbers. Then, count the decimal places in both factors to find how many places are needed in the product.

EXAMPLE

1 Multiply 2.5×1.8 .

$$\begin{array}{r} 1.8 \quad \leftarrow \text{one decimal place} \\ \times 2.5 \quad \leftarrow \text{one decimal place} \\ \hline 90 \\ + 360 \\ \hline 4.50 \quad \leftarrow \text{two decimal places} \end{array}$$

EXAMPLE

2 Find each product.

a. 0.7×1.02

$$\begin{array}{r} 1.02 \\ \times 0.7 \\ \hline 0.714 \end{array}$$

b. 0.03×407

$$\begin{array}{r} 407 \\ \times 0.03 \\ \hline 12.21 \end{array}$$

c. 0.62×2.45

$$\begin{array}{r} 2.45 \\ \times 0.62 \\ \hline 490 \\ + 14700 \\ \hline 1.5190 \end{array}$$

d. 75×3.06

$$\begin{array}{r} 3.06 \\ \times 75 \\ \hline 1530 \\ + 21420 \\ \hline 229.50 \end{array}$$

1.) $\begin{array}{r} 0.3 \\ \times 8 \\ \hline \end{array}$

2.) $\begin{array}{r} 0.04 \\ \times 7 \\ \hline \end{array}$

3.) $\begin{array}{r} 3.1 \\ \times 6 \\ \hline \end{array}$

4.) $\begin{array}{r} 0.8 \\ \times 312 \\ \hline \end{array}$

5.) $\begin{array}{r} 0.42 \\ \times 98 \\ \hline \end{array}$

6.) $\begin{array}{r} 5.2 \\ \times 4.8 \\ \hline \end{array}$

Review the following examples and answer the questions.
All answers must be in simplest form.

Adding and Subtracting Fractions With Like Denominators

When you add or subtract fractions with the same denominator, first add or subtract the numerators. Write the answer over the denominator.

EXAMPLE

1 Add or subtract. Write the answer in simplest form.

a. $\frac{5}{16} + \frac{3}{16}$

$$\begin{array}{r} \frac{5}{16} \\ + \frac{3}{16} \\ \hline \frac{8}{16} = \frac{1}{2} \end{array}$$

b. $\frac{7}{8} - \frac{1}{8}$

$$\begin{array}{r} \frac{7}{8} \\ - \frac{1}{8} \\ \hline \frac{6}{8} = \frac{3}{4} \end{array}$$

c. $\frac{3}{5} + \frac{2}{5}$

$$\frac{3}{5} + \frac{2}{5} = \frac{5}{5} = 1$$

To add or subtract mixed numbers, add or subtract the fractions first. Then add or subtract the whole numbers.

EXAMPLE

2 Add or subtract. Write the answer in simplest form.

a. $2\frac{5}{8} + 3\frac{1}{8}$

$$\begin{array}{r} 2\frac{5}{8} \\ + 3\frac{1}{8} \\ \hline 5\frac{6}{8} = 5\frac{3}{4} \end{array}$$

b. $4\frac{3}{4} - 1\frac{1}{4}$

$$\begin{array}{r} 4\frac{3}{4} \\ - 1\frac{1}{4} \\ \hline 3\frac{2}{4} = 3\frac{1}{2} \end{array}$$

c. $5\frac{5}{6} + 2\frac{5}{6}$

$$\begin{aligned} 5\frac{5}{6} + 2\frac{5}{6} &= 7\frac{10}{6} \\ &= 7 + 1 + \frac{4}{6} \\ &= 8\frac{2}{3} \end{aligned}$$

1.) $\frac{3}{8} + \frac{5}{8}$

2.) $\frac{3}{6} - \frac{1}{6}$

3.) $\frac{6}{8} - \frac{3}{8}$

4.) $\frac{2}{9} + \frac{1}{9}$

5.) $\frac{4}{5} - \frac{1}{5}$

6.) $8\frac{7}{10} + 2\frac{3}{10}$

7.) $2\frac{2}{9} + 3\frac{4}{9}$

8.) $8\frac{5}{8} - 3\frac{3}{8}$

Review the following examples and answer the questions.

Zeros in Quotients

When you divide, after you bring down a digit you must write a digit in the quotient. In this example, the second digit in the quotient is 0.

EXAMPLE

Find $19 \overline{)5,823}$.

Step 1

Estimate the quotient.

$$\begin{array}{r} 5,823 \div 19 \\ \downarrow \quad \downarrow \\ 5,800 \div 20 = 290 \end{array}$$

Step 4

$$\begin{array}{r} 306 \text{ R}9 \\ 19 \overline{)5,823} \\ \underline{-57} \\ 12 \\ \underline{-0} \\ 123 \\ \underline{-114} \\ 9 \end{array}$$

Step 2

$$\begin{array}{r} 3 \\ 19 \overline{)5,823} \\ \underline{-57} \\ 1 \end{array}$$

Step 3

$$\begin{array}{r} 30 \\ 19 \overline{)5,823} \\ \underline{-57} \\ 12 \\ \underline{-0} \\ 12 \end{array}$$

Step 5

Check your answer.
Since 306 is close to 290,
the answer is reasonable.
Find $306 \times 19 + 9$.

1.) $7 \overline{)212}$

2.) $9 \overline{)367}$

3.) $3 \overline{)271}$

4.) $34 \overline{)1,371}$

5.) $19 \overline{)1,335}$

6.) $4 \overline{)282}$

Adding and Subtracting Fractions with Unlike Denominators

When adding and subtracting fractions with unlike denominators you must first find a common denominator. You should find the LCD (least common denominator) and write an equivalent fraction with the new denominator. Then add or subtract just the numerators.

Example

$$\frac{1}{4} + \frac{1}{3}$$

Writing equivalent fractions

$$\frac{1}{4} \times \frac{3}{3} = \frac{3}{12}$$

$$\frac{1}{3} \times \frac{4}{4} = \frac{4}{12}$$

$$\frac{3}{12} + \frac{4}{12} = \frac{7}{12}$$

1.) $\frac{2}{3} - \frac{1}{4}$

2.) $\frac{2}{3} + \frac{1}{6}$

3.) $\frac{1}{8} + \frac{3}{4}$

4.) $\frac{4}{5} - \frac{1}{3}$

5.) $\frac{5}{6} - \frac{1}{2}$

6.) $\frac{2}{3} - \frac{1}{4}$