



Warm up Grade 6

Date: Nov. 15



1) For  $12.807\overline{256}$

a) Write the word for the above (so how you would read)

**Twelve and eight hundred seven thousandths**  
**two hundred fifty-six millionths.**

b) Write the expanded form (decimals) of the above number.

$$10 + 2 + 0.8 + 0.007 + 0.0002 + 0.00005 \\ + 0.000006$$

**Practice**

1. Use a place-value chart to show each number.

- a) 2.3425      b) 0.14286      c) 0.0007      d) 0.000298

Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones	Tenths	Hundredths	Thousandths	Ten Thousandths	Hundred Thousandths	Millionths
						2	3	4	2	5		
						0	1	4	2	8	6	
						0	0	0	0	2	9	8
						0	0	0	0	2	9	8

2. Use the numbers in the table. Write the number that has a 5 in:

- a) 2.184 592      a) the ten-thousandths position  
 b) 1. 003 825      b) the millionths position  
 c) 0.635 734      c) the thousandths position  
 d) 3.702 456      d) the hundred-thousandths position  
 e) 0.506 312      e) the tenths position

3. Describe the meaning of each digit in 4.524 371.

The 4 to the left of the decimal point represents 4 ones, the 5 represents 5 tenths, the 2 represents 2 hundredths, the 4 to the right of the decimal point represents 4 thousandths, the 3 represents 3 ten-thousandths, the 7 represents 7 hundred-thousandths, and the 1 represents 1 millionth.

4. Write each number in standard form.

- a) 8 and 26 ten-thousandths      b) 24 millionths  
 c) 3 hundred-thousandths      d) 4 and 374 millionths

a) 8. 0 0 2 6      b) 0. 0 0 0 0 2 4  
 c) 0. 0 0 0 0 3      d) 4. 0 0 0 3 7 4



5. Write each number in expanded form.

- a) 0.0056      b) 0.00049      c) 3.000023      d) 0.348619

a)  $0.0056 = 0.005 + 0.0006$

B)  $0.00049 = 0.0004 + 0.00009$

c)  $3.000023 = 3 + 0.00002 + 0.000003$

d)  $0.348619 = 0.3 + 0.04 + 0.008 + 0.0006 + 0.00001 + 0.000009$

*Study*

6. Write a decimal that is between:

a) 2.153 and 2.154

b) 0.6534 and 0.6535

2.1530

2.1540

0.65340

0.65350

2.1537

0.65347



7. Find two examples of very small numbers in the media.

Write each number in a place-value chart. Explain how you use the patterns in the chart to read these numbers.

8. How are the values of the red digits in each number related?

a) 5,000.05

b) 2.1433

c) 0.67756

d) 4.234654

ones

hundred thousandths

8a) 5 ones are 100 000 times as great as 5 hundred-thousandths

b) 3 thousandths are 10 times as great as 3 ten-thousandths

c) 6 tenths are 10 000 times as great as 6 hundred-thousandths

d) 4 Thousandths are 1000 times as great as 4 millionths

9. Write the number in each fact in as many different forms as you can.

- a) A strand of silk in the web of a garden spider has a diameter of about 0.000 003 m.
- b) The diameter of one red blood cell is about 0.000 762 cm.
- c) The mass of a grain of rice is about 0.000 02 kg.



a) 3 millionths, or three millionths;

b) 7 ten-thousandths + 6 hundred-thousandths + 2 millionths

or

$0.0007 + 0.00006 + 0.000002$

c) 0.00002 or 2 hundred-thousandths

or

two hundred-thousandths

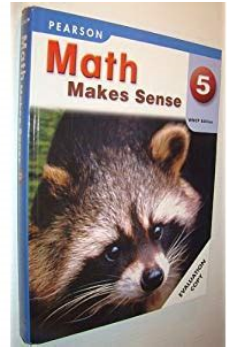
10. Use any or all of these digits: 1, 0, 2, 0, 4, 0, 5, 0

- a) Write 5 numbers less than one thousandth.
- b) Which of your numbers is the least? How do you know?
- c) Which of your numbers is the greatest? How do you know?

a) 0.00012, 0.00002, 0.000042, 0.00005, 0.0000245

b) 0.00012 it has the least amount of ten-thousandths  
0 ones, 0 tenths, 0 hundredths, 0 thousandths,

d) 0.0005 all numbers have 0 ones, 0 tenths, 0 hundredths, and 0 thousandths but 0.0005 has the greatest ten-thousandths



Grade Five	Grade Six
<p><b>N5</b> Demonstrate an understanding of multiplication (2-digit by 2-digit) to solve problems.</p> <p><b>N6</b> Demonstrate, with and without concrete materials, an understanding of division (3-digit by 1-digit) and interpret remainders to solve problems.</p>	<p><b>N8</b> Demonstrate an understanding of multiplication and division of decimals (1-digit whole number multipliers and 1-digit natural number divisors).</p>

### long multiplication

Let's recall

$$\begin{array}{r}
 27 \\
 \times 49 \\
 \hline
 243 \\
 + 1080 \\
 \hline
 1323
 \end{array}$$

### Area Model

Box method

$$54 \times 92$$

90	50	4	
	$90 \times 50 = 4500$	$90 \times 4 = 360$	
2	$2 \times 50 = 100$	$2 \times 4 = 8$	

$$\begin{array}{r}
 4500 \\
 360 \\
 100 \\
 + 8 \\
 \hline
 4968
 \end{array}$$

$$454 \div 8$$

$$\begin{array}{r}
 56 \\
 8 \overline{) 454} \\
 \underline{-40} \phantom{0} \\
 54 \\
 \underline{-48} \\
 6
 \end{array}$$

R6

6 Remainder

$$288 \div 6$$

$$\begin{array}{r}
 48 \\
 6 \overline{) 288} \\
 \underline{-24} \phantom{0} \\
 48 \\
 \underline{-48} \\
 0
 \end{array}$$

DUSP

Jim brought 28 pies to class and cut each pie into 3 pieces. Estimate how many pieces of pie were there.



Total pieces

Actual Operation is multiply Estimate.

$$\begin{array}{r}
 28 \rightarrow 30 \\
 \times 3 \\
 \hline
 84 \text{ pieces}
 \end{array}
 \qquad
 \begin{array}{r}
 \times 3 \\
 \hline
 90 \text{ pieces}
 \end{array}$$

## Worksheet 2 digit or more multiplication

Show work with long multiplication

$$\begin{array}{r}
 \textcircled{1) 67} \\
 \times 24 \\
 \hline
 268 \\
 + 1340 \\
 \hline
 1608
 \end{array}$$

$$\begin{array}{r}
 \textcircled{2) 29} \\
 \times 31 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 \textcircled{3) 78} \\
 \times 42 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 \textcircled{4) 85} \\
 \times 75 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 5) 23 \\
 \times 18 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 6) 12 \\
 \times 56 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 7) 285 \\
 \times 18 \\
 \hline
 \end{array}$$

$$\begin{array}{r}
 8) 129 \\
 \times 64 \\
 \hline
 \end{array}$$

Calculate product with area model (area model)

$$\textcircled{9) 92 \times 48}$$

$$\textcircled{10) 27 \times 86}$$

$$11) 345 \times 62$$

## Worksheet 2 Continues Quotient

Show work with long division (Show any remainders)

①  $458 \div 7$

2)  $240 \div 9$

3)  $187 \div 2$

4)  $936 \div 5$

5)  $3904 \div 4$

.

**Practice**

1. Estimate each product or quotient. Which strategies did you use?

Tell if your estimate is an overestimate or an underestimate.

- a)  $7.01 \times 9$       b)  $3.8 \times 7$       c)  $11.85 \times 5$       d)  $19.925 \times 4$   
e)  $9.8 \div 5$       f)  $12.31 \div 2$       g)  $56.093 \div 7$       h)  $225.3 \div 5$
- 

2. Waldo paid \$29.85 for 3 admission tickets to the Calgary Tower.

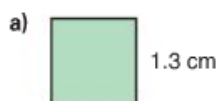
Estimate the cost of one admission ticket.

3. A pair of ice cleats for ice fishing costs \$14.89.  
About how much will 6 pairs of ice cleats cost?  
How did you find out?

4. Estimate the perimeter of each square.

Tell if your estimate is an overestimate or an underestimate.

How do you know?



5. Estimate the side length of a square with perimeter:

- a) 24.2 cm          b) 29.8 cm          c) 35.6 cm

6. a) Is  $9.47 \times 5$  greater than, or less than, 45?

How can you estimate to find out?

b) Is  $23.86 \div 4$  greater than, or less than, 6?

How can you estimate to find out?

Show your work.

7. Copy and complete. Write  $>$ ,  $<$ , or  $=$ .

How did you decide which symbol to use?

- a)  $5.6 \times 2$    $1.4 \times 4$           b)  $4.8 \div 2$    $15.5 \div 5$