



Unit 6 Assessment

① Multiply.

a. $5.7 * 10^1 =$ _____

b. $5.7 * 10^2 =$ _____

c. $5.7 * 10^3 =$ _____

② Where did you place the decimal point in your answer to Problem 1c?
How did you know to place it there?

③ Divide.

a. $12.8 \div 10^1 =$ _____

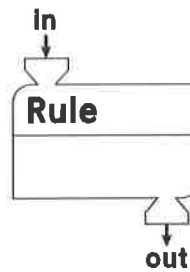
b. $12.8 \div 10^2 =$ _____

c. $12.8 \div 10^3 =$ _____

④ Where did you place the decimal point in your answer to Problem 3b?
How did you know to place it there?

Unit 6 Assessment (continued)

- ⑤ Convert between centimeters (cm) and meters (m) to complete the “What’s My Rule?” table. Then write a rule using a power of 10 in exponential notation.



In (cm)	out (m)
100	1
250	2.5
25	
1	
48	0.48
	5.3

- ⑥ Jillian is making curtains for her room. She has fabric for each curtain that is 1.6 meters in length. She folds the bottom of the fabric up to make each curtain 8 centimeters shorter. How long is each curtain after Jillian has shortened them?

Answer: _____

- ⑦ Use an estimate to place the decimal point in each product.
- a. $52.3 * 7.9 = 4\ 1\ 3\ 1\ 7$
- b. $1.95 * 17.2 = 3\ 3\ 5\ 4$
- ⑧ Explain how you solved Problem 7b.

Unit 6 Assessment (continued)

Solve.

$$\begin{array}{r} \textcircled{9} \quad 12.6 \\ * 8.7 \\ \hline \end{array}$$

$$\begin{array}{r} \textcircled{10} \quad 53.7 \\ * 98.3 \\ \hline \end{array}$$

- 11** Explain how you solved Problem 9.

- 12** Make an estimate. Then divide as if the dividend were a whole number. Use your estimate to place the decimal point in your answer.

$$8.46 \div 3 = ?$$

Estimate: _____

$$8.46 \div 3 = \underline{\hspace{2cm}}$$

- 13** Write an equivalent problem that has a whole-number divisor. Then solve the equivalent problem and complete the number sentence.

$$6.3 \div 0.9 = ?$$

Equivalent problem: _____

$$6.3 \div 0.9 = \underline{\hspace{2cm}}$$

Unit 6 Assessment (continued)

- 14 a. A rectangular one-story house covers an area of 3,700 square feet. The ceilings are 8 feet high. What is the volume of the interior of the house?

Number model: _____

Volume: _____ cubic feet

- b. The owners added a second floor to the house. The second floor is 50 feet long and 30 feet wide with ceilings that are 9 feet tall. What is the volume of the interior of the second floor?

Number model: _____

Volume: _____ cubic feet

- c. What is the total volume of the interior of the house?

Number model: _____

Volume: _____ cubic feet



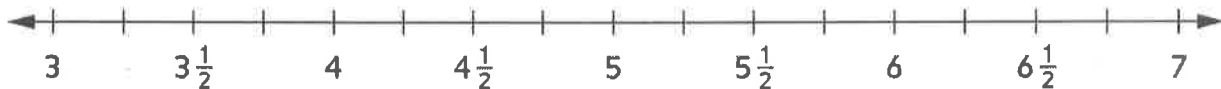
Unit 6 Assessment (continued)

- 15 Travis helps out at his family's tree farm. He took careful measurements of 10 dogwood trees and recorded the heights below.

Dogwood Tree Heights (ft)

$6\frac{1}{4}$	$5\frac{1}{2}$	$4\frac{1}{4}$	$4\frac{3}{4}$	$5\frac{1}{2}$	$4\frac{3}{4}$	$3\frac{3}{4}$	$5\frac{1}{2}$	$4\frac{1}{2}$	$5\frac{1}{4}$
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- a. Complete the line plot using Travis's data. Remember to add a title and label.



- b. What is the most common height of the dogwood trees at the farm? _____
- c. What is the combined height of the 5 tallest trees?

Number model: _____

The combined height is _____ feet.

- d. What is the difference between the tallest and shortest trees?

Number model: _____

The difference in height is _____ feet.

Unit 6

Write each statement as an expression.

16. Add 20 to the product of 3 and 6.

17. Subtract 7 and 2, and then multiply by 8.

Follow the steps to find the number.

18. Write 6 in the ones place.

Write 4 in the thousandths place

Write 9 in the tens place

Write 3 in the hundredths place

Write 5 in the tenths place

19. Multiply.

$$\begin{array}{r} 306 \\ * 24 \\ \hline \end{array}$$



Unit 6 Challenge

- ① Rewrite $4.8 * 10^2 * 10^5$ with a single power of 10. Explain your reasoning.

- ② A camel is carrying a pack that weighs 294 kg. A traveler adds a piece of straw to the pack that weighs 370 mg. What is the total weight of the camel's pack now?

Answer: _____

- ③ Kyle has a fish tank that is 16 inches long and 15 inches wide. He filled the tank so that the water is 12 inches high. Then he placed a sand castle decoration in the tank and the water level rose to 13 inches. What is the volume of the sand castle decoration?

The volume of the sand castle decoration is _____ in³.

Explain how you found your answer.



Unit 6 Challenge (continued)

- ④ Jerissa is using her calculator. She needs to multiply $8.9 * 0.28$, but her decimal point key is not working. Explain how Jerissa could solve the problem on the calculator without using the decimal point key.

- ⑤ Refer to the line plot you created for Problem 15 of the Unit Assessment. Travis's family wants to write an advertisement claiming that the typical height of their dogwood trees is $5\frac{1}{4}$ feet. Would this be an accurate claim? Explain your answer.
