Name_____ Date_____

3.1 Algebraic Expressions
For use with Activity 3.1

Essential Question How can you write and evaluate an expression that represents a real-life problem?

1 ACTIVITY: Reading and Re-Reading

a.

> You babysit for 3 hours. You receive $12. What is your
> hourly wage?

- Underline the important numbers and units you need to solve the problem.

- Read the problem carefully a second time. Circle the key word for the question.

- Write each important number or word, with its units, on a piece of paper. Write +, −, ×, ÷, and = on five other pieces of paper.

- Arrange the pieces of paper to answer the key word question, "What is your hourly wage?"

- Evaluate the expression that represents the hourly wage.

Your hourly wage is _____.

b. How can you use your hourly wage to find how much you will receive for any number of hours worked?

3.1 **Algebraic Expressions** (continued)

2 **ACTIVITY:** Reading and Re-Reading

Work with a partner. Use the strategy shown in Activity 1 to write an expression for each problem. After you have written the expression, evaluate it using mental math or some other method.

a. You wash cars for 2 hours. You receive $6. How much do you earn per hour?

Expression: _____

Amount you earn per hour: _____

b. You have $60. You buy a pair of jeans and a shirt. The pair of jeans costs $27. You come home with $15. How much did you spend on the shirt?
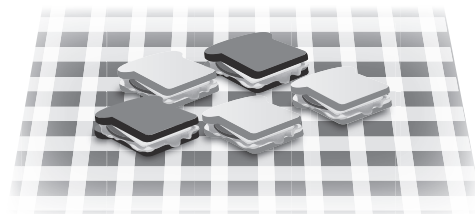
Expression: _____

Amount you spend on shirt: _____

c. For lunch, you buy 5 sandwiches that cost $3 each. How much do you spend?

Expression: _____

Amount you spend on sandwiches: _____

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d. You are running a 4500-foot race. How much farther
do you have to go after running 2000 feet?

Expression: _____

Amount left to go: _____

e. A young rattlesnake grows at a rate of about
20 centimeters per year. How much does a young
rattlesnake grow in 2 years?

Expression: _____

Amount rattlesnake grows in 2 years: _____

What Is Your Answer?

3. **IN YOUR OWN WORDS** How can you write and evaluate an expression
that represents a real-life problem? Give one example with addition, one
with subtraction, one with multiplication, and one with division.

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Evaluate the expression when $a = 4$, $b = 5$, **and** $c = 10$.

  1. $a + 7$ **2.** $b - 3$ **3.** $9c$

  4. $25 \div b$ **5.** $a \bullet c$ **6.** $b - a$

  7. $a + b + c$ **8.** $\dfrac{c}{b}$ **9.** $4a - 7$

10. You need $2b$ cups of flour for making b loaves of bread. You have 8 cups of flour. Do you have enough for 5 loaves of bread? Explain.

11. The expression $9a + 6s$ is the cost for a adults and s students to see a musical performance.

  a. Find the total cost for three adults and five students.

  b. Find the total cost for four adults and four students.