Name: _____

MID-TOPIC CHECKPOINT

TOPIC 4

1. **Vocabulary** Describe the relationship between equations and the properties of equality. *Lessons 4-1 and 4-2*

In 2–4, write an equation for the situation. Then solve the equation and explain how you solved it.

2. A fraction f multiplied by 4 equals $\frac{1}{2}$. *Lesson 4-5*

3. When 832 is divided by n, the result is 16. *Lesson 4-4*

4. When 10 is subtracted from x, the result is 6. *Lesson 4-3*

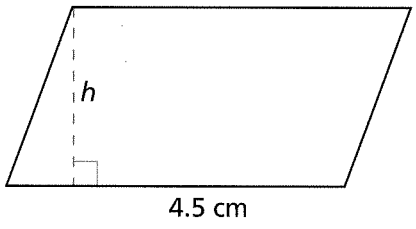
5. Which equation is NOT equivalent to $n - 9 = 12$? Select all that apply. *Lesson 4-2*

- ☐ $n - n - 9 = 12 - n$
- ☐ $n - 9 + 12 = 12 - 9$
- ☐ $n - 9 + 9 = 12 + 9$
- ☐ $n - 9 - n = 12 - n$
- ☐ $n - 9 + 9 = 12 - 12$

6. Which value for d makes the equation $9 = 18 \div d$ true? Select all that apply. *Lesson 4-1*

- ☐ 2
- ☐ 0.5
- ☐ $\frac{10}{5}$
- ☐ 162
- ☐ $\frac{1}{4}$

7. The area, A, of a parallelogram is 15.3 square centimeters. Its base, b, is 4.5 centimeters. The formula for finding the area of a parallelogram is $A = bh$. Write and solve an equation to find the height, h, of the parallelogram. *Lessons 4-4 and 4-5*

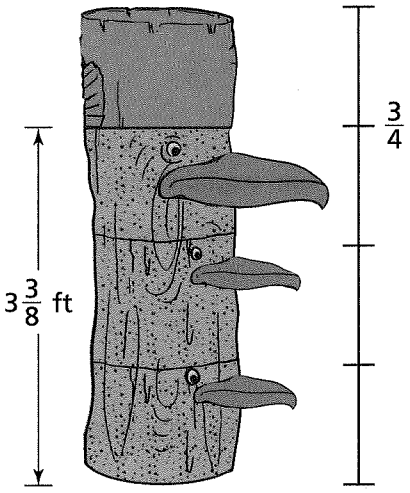


How well did you do on the mid-topic checkpoint? Fill in the stars.

TOPIC 4

MID-TOPIC PERFORMANCE TASK

Ronald carved $3\frac{3}{8}$ feet of a totem pole. He says that the totem pole is $\frac{3}{4}$ complete.



PART A

If h represents the height, in feet, of the finished totem pole, then $\frac{3}{4}h = 3\frac{3}{8}$ represents this situation. Which equations show the use of a reciprocal to write an equivalent equation that can be used to solve for h? Select all that apply.

- ☐ $\frac{3}{4}h + \frac{3}{4} = 3\frac{3}{8} + \frac{3}{4}$
- ☐ $\frac{3}{4}h \times \frac{4}{3} = 3\frac{3}{8} \times \frac{4}{3}$
- ☐ $\frac{3}{4}h \times \frac{3}{4} = 3\frac{3}{8} \times \frac{3}{4}$
- ☐ $\frac{3}{4}h - \frac{3}{4} = 3\frac{3}{8} - \frac{3}{4}$
- ☐ $\frac{3}{4}h \times \frac{4}{3} = 3\frac{3}{8} \times \frac{3}{4}$

PART B

Use the equation in Part A to determine the height of the finished totem pole. Then write and solve an equation to find the height, s, of the section that has not been carved.

PART C

Ronald spent \$10.50 on tools and x dollars on the wood for the totem pole. His total cost for the totem pole is \$19.35. The equation $\$10.50 + x = \$19.35$ represents this situation. What is the cost of the wood Ronald used?

PART D

To make the same totem pole with wood that costs y dollars, Ronald would have to spend a total of \$35.19. Explain which property of equality Ronald could use to solve the equation $\$10.50 + y = \$35.19$ and why that property can be used. Then show how to use that property to solve for y.