Lesson 13 Practice Problems

1. Select **all** expressions that are equal to $3 \cdot 3 \cdot 3 \cdot 3 \cdot 3$.

   A. $3 \cdot 5$

   B. 3^5

   C. $3^4 \cdot 3$

   D. $5 \cdot 3$

   E. 5^3

2. Noah starts with 0 and then adds the number 5 four times. Diego starts with 1 and then multiplies by the number 5 four times. For each expression, decide whether it is equal to Noah's result, Diego's result, or neither.

   a. $4 \cdot 5$

   b. $4 + 5$

   c. 4^5

   d. 5^4

3. Decide whether each equation is true or false, and explain how you know.

   a. $9 \cdot 9 \cdot 3 = 3^5$

   b. $7 + 7 + 7 = 3 + 3 + 3 + 3 + 3 + 3 + 3$

   c. $\frac{1}{7} \cdot \frac{1}{7} \cdot \frac{1}{7} = \frac{3}{7}$

   d. $4^1 = 4 \cdot 1$

   e. $6 + 6 + 6 = 6^3$

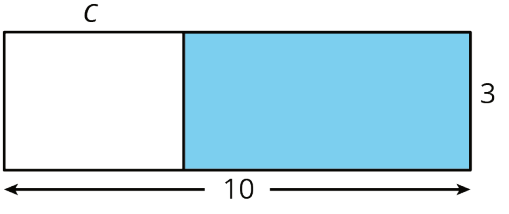
4. a. What is the area of a square with side lengths of $\frac{3}{5}$ units?

b. What is the side length of a square with area $\frac{1}{16}$ square units?

c. What is the volume of a cube with edge lengths of $\frac{2}{3}$ units?

d. What is the edge length of a cube with volume $\frac{27}{64}$ cubic units?

5. Select **all** the expressions that represent the area of the shaded rectangle.



A. $3(10 - c)$

B. $3(c - 10)$

C. $10(c - 3)$

D. $10(3 - c)$

E. $30 - 3c$

F. $30 - 10c$

(From Unit 6, Lesson 10.)

6. A ticket at a movie theater costs $8.50. One night, the theater had $29,886 in ticket sales.

   a. Estimate about how many tickets the theater sold. Explain your reasoning.

   b. How many tickets did the theater sell? Explain your reasoning.

   (From Unit 5, Lesson 13.)

7. A fence is being built around a rectangular garden that is $8\frac{1}{2}$ feet by $6\frac{1}{3}$ feet. Fencing comes in panels. Each panel is $\frac{2}{3}$ of a foot wide. How many panels are needed? Explain or show your reasoning.

   (From Unit 4, Lesson 12.)