Lesson 14 Practice Problems

1. Lin says, "I took the number 8, and then multiplied it by the square of 3." Select **all** the expressions that equal Lin's answer.

   A. $8 \cdot 3^2$

   B. $(8 \cdot 3)^2$

   C. $8 \cdot 2^3$

   D. $3^2 \cdot 8$

   E. 24^2

   F. 72

2. Evaluate each expression.

   a. $7 + 2^3$

   b. $9 \cdot 3^1$

   c. $20 - 2^4$

   d. $2 \cdot 6^2$

   e. $8 \cdot (\frac{1}{2})^2$

   f. $\frac{1}{3} \cdot 3^3$

   g. $(\frac{1}{5} \cdot 5)^5$

3. Andre says, "I multiplied 4 by 5, then cubed the result." Select **all** the expressions that equal Andre's answer.

   A. $4 \cdot 5^3$

   B. $(4 \cdot 5)^3$

   C. $(4 \cdot 5)^2$

   D. $5^3 \cdot 4$

   E. 20^3

   F. 500

   G. 8,000

4. Han has 10 cubes, each 5 inches on a side.

   a. Find the total volume of Han's cubes. Express your answer as an expression using an exponent.

   b. Find the total surface area of Han's cubes. Express your answer as an expression using an exponent.

5. Priya says that $\frac{1}{3} \cdot \frac{1}{3} \cdot \frac{1}{3} \cdot \frac{1}{3} = \frac{4}{3}$. Do you agree with Priya? Explain or show your reasoning.

   (From Unit 6, Lesson 13.)

6. Answer each question. Show your reasoning.

   a. 125% of e is 30. What is e?

   b. 35% of f is 14. What is f?

(From Unit 6, Lesson 7.)

7. Which expressions are solutions to the equation $2.4y = 13.75$? Select **all** that apply.

   A. $13.75 - 1.4$

   B. $13.75 \cdot 2.4$

   C. $13.75 \div 2.4$

   D. $\frac{13.75}{2.4}$

   E. $2.4 \div 13.75$

(From Unit 6, Lesson 5.)

8. Jada explains how she finds $15 \cdot 23$:

   "I know that ten 23s is 230, so five 23s will be half of 230, which is 115.
   15 is 10 plus 5, so $15 \cdot 23$ is 230 plus 115, which is 345."

   a. Do you agree with Jada? Explain.

   b. Draw a 15 by 23 rectangle. Partition the rectangle into two rectangles and label them to show Jada's reasoning.

(From Unit 5, Lesson 7.)