Name: _____

Numerical Expressions with Exponents

Solve the problems.

1 What is the value of $0.9 \cdot 10^2$?

A 0.09

B 0.9

C 9

D 90

> How many factors of 10 are in 10^2?

2 Look at the expression.

$4 \cdot (12 - 8) + 2^3$

Tell whether each statement about the expression is *True* or *False*.

> What does the order of operations tell you?

a. The last step in evaluating the expression is to simplify 2^3. ☐ True ☐ False

b. The value of 2^3 is 6. ☐ True ☐ False

c. The first step in evaluating the expression is to subtract $12 - 8$. ☐ True ☐ False

d. The value of the expression is 48. ☐ True ☐ False

3 Beth is making a beanbag seat in the shape of a cube. Each side of the seat is 2 feet long. Beth needs to find the volume of the seat so that she can buy the correct amount of beans. Beans are sold in bags that hold 2 cubic feet of beans. How many bags of beans should Beth buy?

> How do you find the volume of a cube?

Show your work.

Solution: _____

Solve.

4 Which expression shows the first step in evaluating
$2 + 7 \cdot \dfrac{12}{6} - 3^2$?

A $2 + \dfrac{84}{6} - 3^2$

B $9 \cdot \dfrac{12}{6} - 3^2$

C $2 + 7 \cdot \dfrac{12}{6} - 9$

D $2 + 7 \cdot 2 - 3^2$

5 Students at a cooking school made a supersized rectangular pizza for a class party. Lupita cut the pizza into 3 equal pieces. Then she cut each piece into 3 equal parts two more times. Lupita needs 27 pieces of pizza. Does she have enough pieces yet? Explain how you know.

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6 Students are getting signatures for a petition to increase sports activities at the community center. The number of signatures they get each day is 3 times as many as the day before. The expression 3^6 represents the number of signatures they got on the sixth day. How many signatures did they get on the first day?

A 3

B 6

C 18

D 729

Betsy chose **B** as the correct answer. How did she get that answer?

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