Name _____ Core _____

# Square Root and Cube Root Study Guide

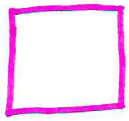
**Directions:** Answer all questions, and show all work where applicable.

1. Tell whether each equations are equal:
   a. $\sqrt{8} = 4$ the square root of 8 is not 4
   b. $\sqrt[3]{27} = 9$ the cube root of 27 is not 9, it is 3
   c. $5 = \sqrt[3]{125}$
   d. $\sqrt[3]{\frac{8}{64}} = \sqrt{\frac{4}{16}}$ $= \frac{\sqrt[3]{8}}{\sqrt[3]{64}} = \frac{2}{4}$ $\frac{\sqrt{4}}{\sqrt{16}} = \frac{2}{4}$

2. Tom is decorating the outside edge of a poster board for his class presentation. He needs to know the side length of the poster board. He does know that the area of the poster board is X square feet.

   Which equation shows the side length of the poster board in feet?

   a. $\sqrt{X}$
   b. $\frac{X}{2}$
   c. $x^2$
   d. $\sqrt[3]{X}$



area $= l \cdot w$
area $= X$ ← that is in the problem
$\sqrt{X}$ ← take the square root of X to find out l and w

3. Which of the following are perfect squares, or perfect cubes?
   For each perfect square or perfect cube, write their square root or cube root.

   a. 27 = 3
   b. 12
   c. 81 = 9
   d. 16 = 4
   e. 2
   f. 8 = 2

4. Erin bought a new sugar container from the store. It is the shape of a cube. She can fit 216, 1 inch sugar cubes inside of it.

   What is the height of the container?

   6 inches

$V = l \cdot w \cdot h$
$216 = l \cdot w \cdot h$
$\sqrt[3]{216} = 6$