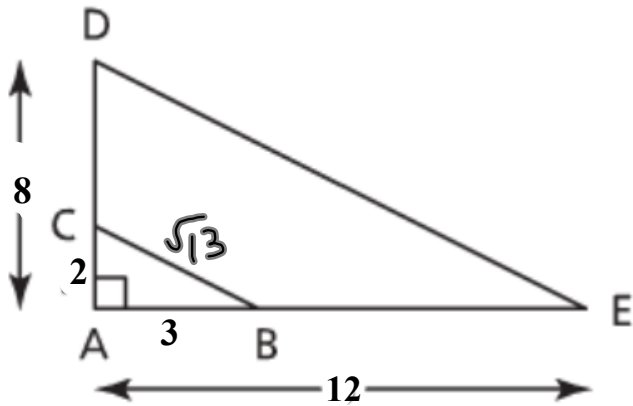


Use the diagram to explain that  $\sqrt{208} = 4\sqrt{13}$



Similar Triangles

$\triangle ABC$        $\triangle ADE$

ADE is 4 times greater than ABC

$\triangle ABC$

$$c^2 = a^2 + b^2$$

$$c^2 = 3^2 + 2^2$$

$$c^2 = 9 + 4$$

$$c^2 = 13$$

$$c = \sqrt{13}$$

$\triangle ADE$

$$c^2 = a^2 + b^2$$

$$c^2 = 8^2 + 12^2$$

$$c^2 = 64 + 144$$

$$c^2 = 208$$

$$c = \sqrt{208}$$

Therefore  $4\sqrt{13} = \sqrt{208}$

A cube has a **volume** of  $875 \text{ cm}^3$ .  
Write the edge length of the cube  
as a radical in simplest form.

$$V = l \times w \times h$$
$$\sqrt[3]{875}$$

$$\sqrt[3]{5 \times 5 \times 5 \times 7}$$

$$5\sqrt[3]{7}$$

A cube has a **Surface Area** of  $648 \text{ cm}^2$ . Write the edge length of the cube as a radical in simplest form.

$$SA = 6(l \times w)$$

$$648 \div 6 = 108$$

$$\begin{aligned} & \sqrt{108} \\ & \sqrt{2 \times 2 \times 3 \times 3 \times 3} \\ & 2 \times 3 \sqrt{3} \\ & = 6\sqrt{3} \end{aligned}$$

## Solve by Algebra

$$\textcircled{4}\sqrt{13} = \sqrt{208}$$

$$\sqrt{13 \times 4 \times 4} = \sqrt{208}$$

$$\sqrt{208} = \sqrt{208}$$