

# Warm Up Questions

- 1. A cube has a surface area of  $3456 \text{ cm}^2$   
What is the volume?**
  
- 2. The volume of a cube is  $250047 \text{ cm}^3$   
What is the surface area?**

1. A cube has a surface area of  $3456 \text{ cm}^2$   
 What is the volume?

$3456 \longrightarrow$  work backwards  $SA = 6(l \times w)$

$3456 / 6 = 576$

$SA = \cancel{6}(l \times w)$   
 same



$\sqrt{576} = 2 \times 2 \times 2 \times 2 \times 2 \times 3 \times 3$

$2 \times 2 \times 2 \times 3 = 24$

$SA = 6(l \times w)$   
 $= 6(24 \times 24)$   
 $= 3456$

Volume =  $l \times w \times h$   
 $= 24 \times 24 \times 24$   
 $= 13824 \text{ cm}^3$

2. The volume of a cube is 250047 cm  
What is the surface area?

250047

$v = l \times w \times h$

$$63 \times 63 \times 63$$

$$250047 = 3 \times 3 \times 3 \times 3 \times 3 \times 3 \times 7 \times 7 \times 7$$

$$= 3 \times 3 \times 7$$

$$= 63$$

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

$$= 6 (63 \times 63)$$

$$= 23814 \text{ cm}^2$$