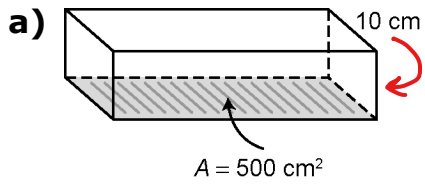


KEY

Practice (3.1)

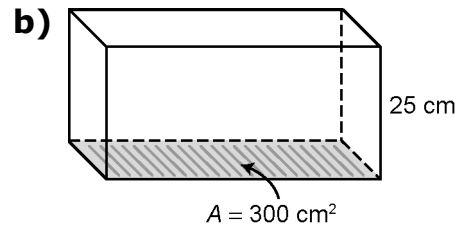
1. Determine the volume of each rectangular prism.



$$V = A_b h$$

$$V = (500)(10)$$

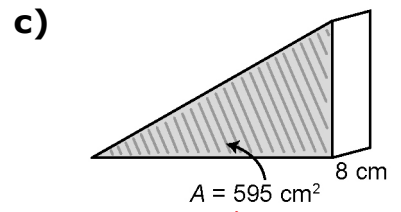
$$V = 5000 \text{ cm}^3$$



$$V = A_b h$$

$$V = (300)(25)$$

$$V = 7500 \text{ cm}^3$$



$$V = A_b h$$

$$V = (595)(8)$$

$$V = 4760 \text{ cm}^3$$

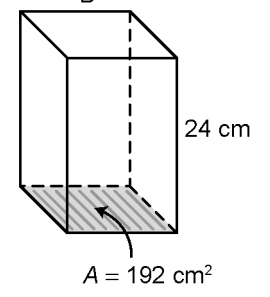
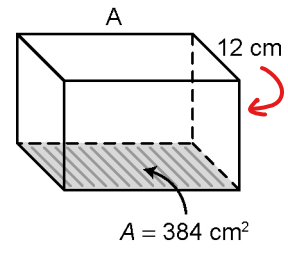
2. a) What is the volume of Box A?

$$V = A_b h \quad | \quad V = (384)(12) \quad | \quad V = 4608 \text{ cm}^3$$

b) What is the volume of Box B?

$$V = A_b h \quad | \quad V = (192)(24) \quad | \quad V = 4608 \text{ cm}^3$$

c) Are their volumes the same? Explain.



Yes. Box B has twice the height of box A, but its base is twice the area of box A's base.

3. What is the height of each rectangular prism?

a) volume = 108 cm^3 , area of base = 12 cm^2 9 cm

b) volume = 80 cm^3 , area of base = 16 cm^2 5 cm

c) area of base = 110 cm^2 , volume = 110 cm^3 1 cm

4. The Canola Oil Company is designing cans for its oil. Their cans hold 1 L, which is 1000 cm^3 . The area of the base of their can is 80 cm^2 . How tall is the can? Show your answer to one decimal place.

#3 a) $V = A_b h$
 $\frac{108}{12} = \frac{12 h}{12}$
 $9 = h$

b) $V = A_b h$
 $\frac{80}{16} = \frac{16 h}{16}$
 $5 = h$

c) $V = A_b h$
 $\frac{110}{110} = \frac{110 h}{110}$
 $1 = h$

#4. $V = A_b h$
 $\frac{1000}{80} = \frac{80 h}{80}$
 $12.5 = h$
 $h = 12.5 \text{ cm}$