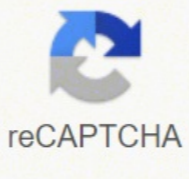




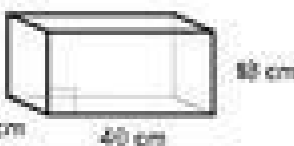


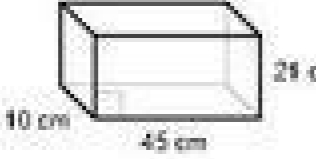

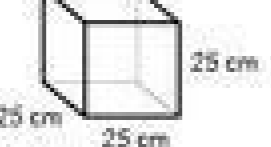
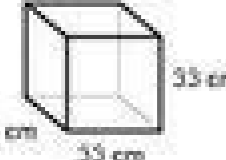

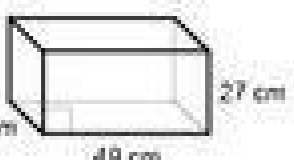
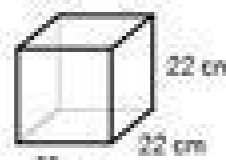
I'm not robot



Open

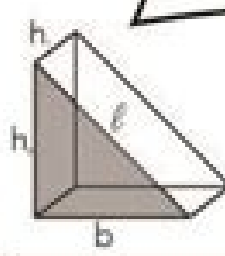
NAME \_\_\_\_\_ DATE \_\_\_\_\_

Find the volume and surface area of each figure. (Figures shown are not drawn to scale)

- 1)  2) 
- 3)  4) 
- 5)  6) 
- 7)  8) 
- 9)  10) 

## Volume and Surface Area OF PRISMS AND PYRAMIDS

### Triangular Prism

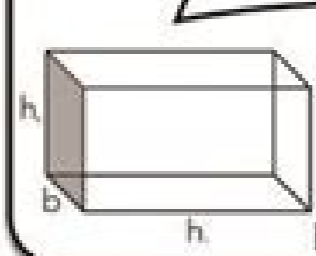


$$V = B \cdot h$$

$$SA = P \cdot h + 2 \cdot B$$

$$B = \frac{b \cdot h}{2} \quad P = b + 2 \cdot l$$

### Rectangular Prism

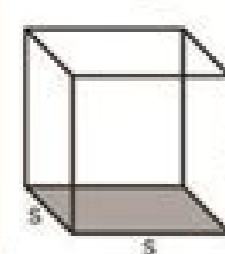


$$V = B \cdot h$$

$$SA = P \cdot h + 2 \cdot B$$

$$B = b \cdot h \quad P = 2b + 2h$$

### Cube



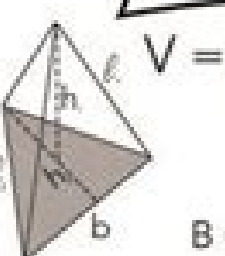
$$V = s \cdot s \cdot s = s^3$$

$$SA = 6 \cdot s \cdot s = 6s^2$$

Surface Area is measured in square units

Volume is measured in cubic units

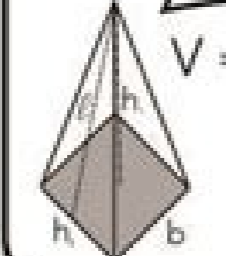
### Triangular Pyramid



$$V = \frac{B \cdot h}{3} \quad SA = \frac{P \cdot l}{2} + B$$

$$B = \frac{b \cdot h}{2} \quad P = b + 2 \cdot l$$

### Rectangular Pyramid



$$V = \frac{B \cdot h}{3} \quad SA = \frac{P \cdot l}{2} + B$$

$$B = b \cdot h \quad P = 2b + 2h$$

**Key** V = Volume    B = area of the base    b = base    s = side

SA = Surface Area    P = perimeter of the base    h = height    l = slant height

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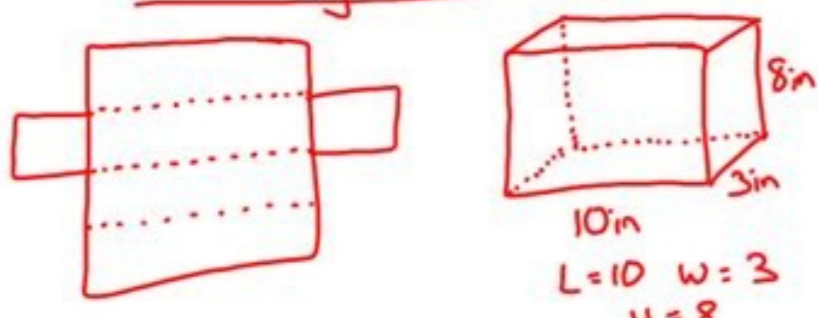
### Surface Area: Prisms and Cylinders

Section 10-5

Why does the formula work?

- Rectangular Prism – 6 rectangular faces
- Cylinder – 2 circles and 1 rounded rectangle

#### Rectangular Prism



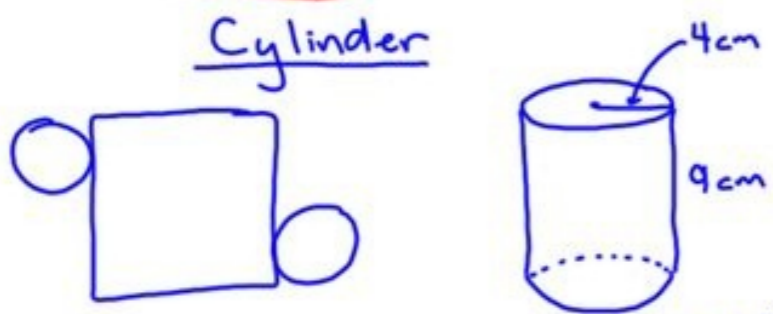
$$SA = 2 \cdot L \cdot W + 2 \cdot H \cdot W + 2 \cdot L \cdot H$$

$$= 2 \cdot 10 \cdot 3 + 2 \cdot 8 \cdot 3 + 2 \cdot 10 \cdot 8$$

$$= 60 + 48 + 160$$

$$= 268 \text{ in}^2$$

#### Cylinder



$$SA = 2\pi r^2 + 2\pi r h$$

$$= 2 \cdot 3.14 \cdot 4^2 + 2 \cdot 3.14 \cdot 4 \cdot 9$$

$$= 6.28 \cdot 16 + 6.28 \cdot 36$$

$$= 100.48 + 226.08$$

$$= 326.56 \text{ cm}^2$$

