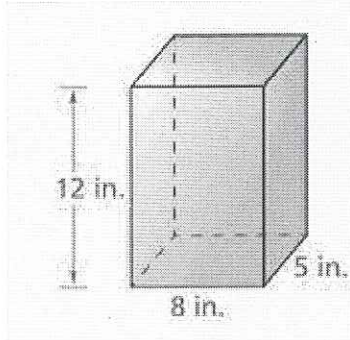
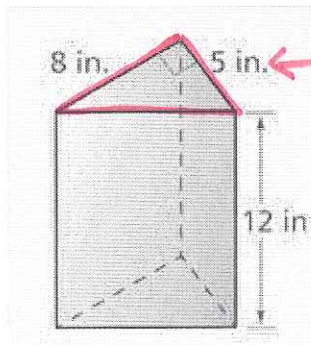


A) Find the volume of the prisms below.

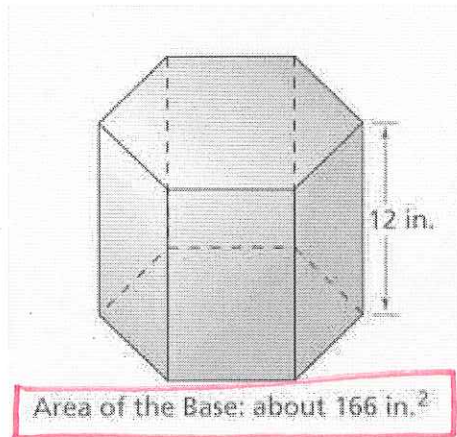


$$V = 8 \times 5 \times 12 = 480 \text{ in}^3$$

↑ 1 layer



$$\text{1st layer: } \frac{1}{2} \cdot 8 \cdot 5 = 20 \leftarrow \text{1 layer}$$
$$20 \times 12 = 240 \text{ in}^3$$



$$V = 166 \times 12 = 1992 \text{ in}^3$$

↑ 1 layer

1. How are the volumes of the prisms related?

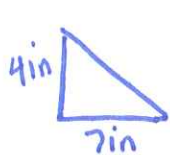
- All of the prisms have a height of 12
- The area of the bases are all different
- The Δ prism is half the volume of the rectangular prism.
- The volume of the hexagonal is the greatest.

2. Describe a general strategy for finding the volume of each prism. How does your strategy help you compare the volumes of the prisms?

① Find the area of the base (1 layer)

② multiply the area of the base by the height.
(# of layers)

B) 1. A triangular prism has a right triangle base with one leg 4 inches and the other leg 7 inches. The height of the prism is 11 inches. What is its volume?



$$A = \frac{4 \cdot 7}{2} = \frac{28}{2} = 14 \leftarrow 1 \text{ layer}$$

$$14 \times 11 = \boxed{154 \text{ inches}^3}$$

2. What is the volume of an octagonal prism whose base area is 15 square centimeters and whose height is 4.5 centimeters?

$$\text{Area of base} = 15$$

$$15 \times 4.5 = \boxed{67.5 \text{ cm}^3}$$

C) Describe a strategy for finding the volume of any prism. Give examples.

① Find the area of the base

② multiply the area by the height

Ex:

Triangular Prism has a base area of 20 in^2 and a height of 5 in.

$$20 \times 5 = \boxed{100 \text{ in}^3}$$