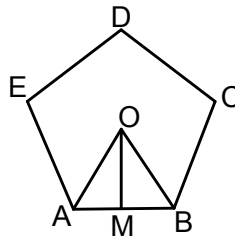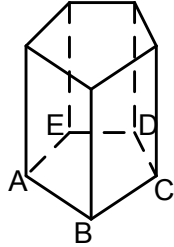The bade if a prism is a regular pentagon with sides 5 feet long and an apothem of 3.4 feet. If the prism us 6 feet tall, what is the volume of the prism?

Solution:

The volume of the prism is

$$V = Area ABCDE * H$$

$$Area ABCDE = 5 Area \Delta AOB$$

$$Area \Delta AOB = \frac{AB * OM}{2}$$

Given:

$$AB = 5 \; feet$$

$$OM = 3.4 \; feet$$

$$H = 6 \; feet$$

So

$$V = 5 * \frac{5 * 3.4}{2} * 6 = 153 \; cubic \; feet$$

Answer: The volume of the prism is $153 \; cubic \; feet$