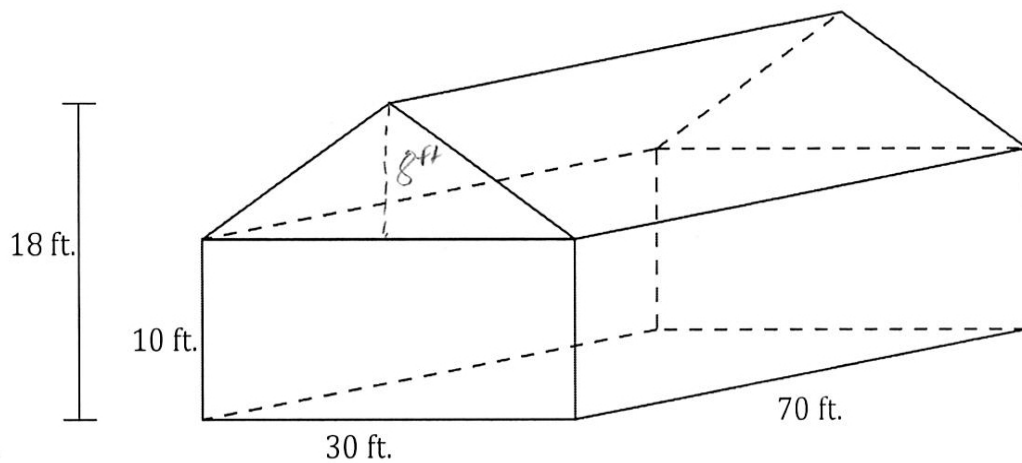


Andrea needs a new air conditioning system for her house. An air conditioner needs to be big enough to cool a house, but it will wear out quickly if it is too big. Calculate the volume of the house pictured below to help Andrea choose the right air conditioner.



$$\begin{aligned}
 V &= Bh \\
 &= lwh \\
 &= (70)(30)(10) \\
 &= 21,000 \text{ ft}^3
 \end{aligned}$$

$$\begin{aligned}
 V &= Bh \\
 &= \frac{1}{2}bh h_2 \\
 &= \frac{1}{2}(30)(8)(8) \\
 &= \frac{1}{2} 1,920 \\
 &= 960 \text{ ft}^3
 \end{aligned}$$

$$21,000 + 960 = 21,960 \text{ ft}^3$$