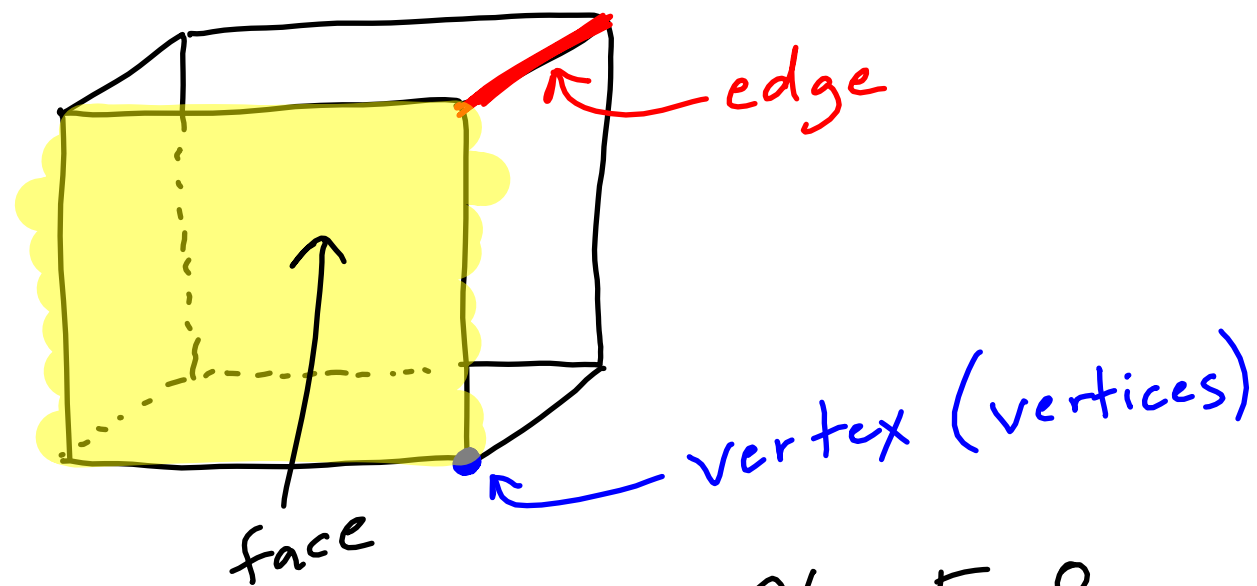


Surface Area / Volume of Prisms / Cylinders

- polyhedron - 3-D shape



Euler's Formula

$$\text{Faces} + \text{Vertices} - \text{Edges} = 2$$

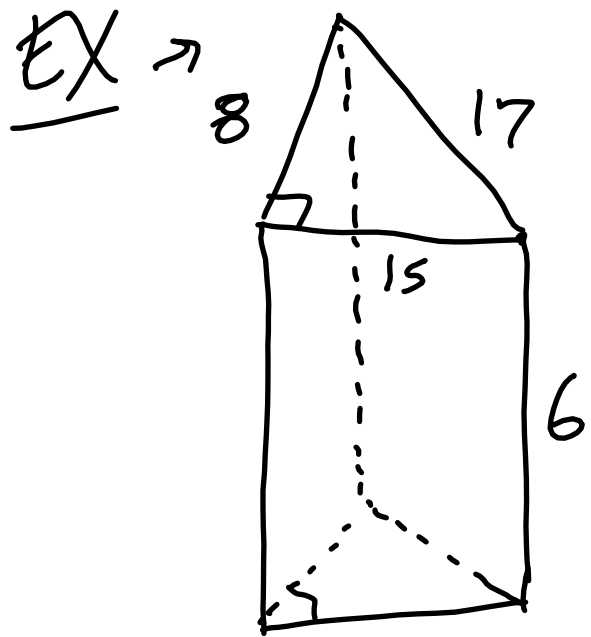
$$F + V - E = 2$$

EX → $F = 8$
 $V = 12$
 $E = ?$

$$\begin{aligned} 8 + 12 - E &= 2 \\ 20 - E &= 2 \\ -E &= -18 \\ E &= 18 \end{aligned}$$

EX → $F = ?$
 $V = 5$
 $E = 8$

$$\begin{aligned} F + 5 - 8 &= 2 \\ F - 3 &= 2 \\ F &= 5 \end{aligned}$$

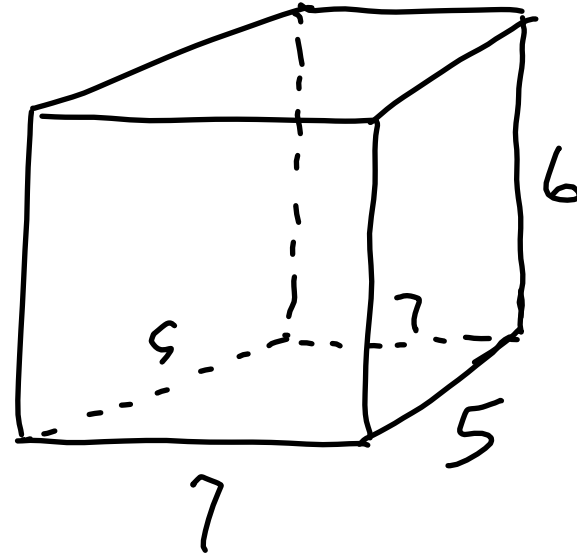


$$LA = (8 + 15 + 17)(6) = 240 \text{ u}^2$$

$$SA = 240 + 2 \left(\frac{1}{2} (15)(8) \right) = 240 + 120 = 360 \text{ u}^2$$

$$V = \frac{1}{2} (8)(15)(6) = 360 \text{ u}^3$$

EX →

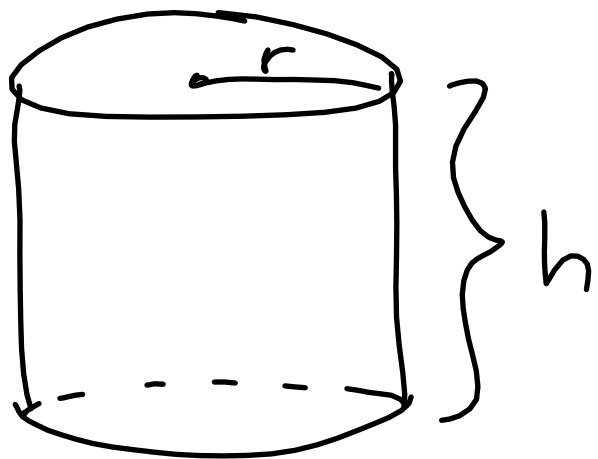


$$LA = (7 + 7 + 5 + 5)(6) = 144 \text{ u}^2$$

$$SA = 144 + 2 \cdot 7 \cdot 5 = 144 + 70 = 214 \text{ u}^2$$

$$V = 7 \cdot 5 \cdot 6 = 210 \text{ u}^3$$

- Cylinder →



$$LA = \text{Circumference} \cdot \text{height} = \pi \cdot d \cdot h$$

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

$$V = \pi r^2 \cdot h$$

HW: p. 692 → 6-11

p. 704 → 10-23, 26, 29-32, 38, 40