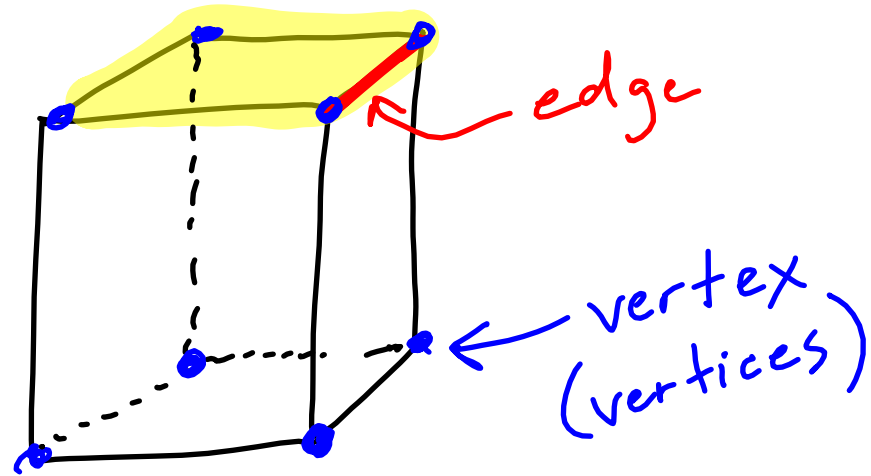
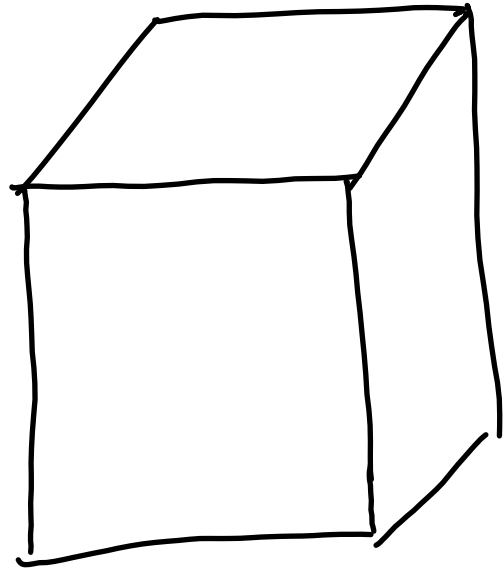


Surface Area/Volume of Prisms/Cylinders

- polyhedron \rightarrow 3-D shape

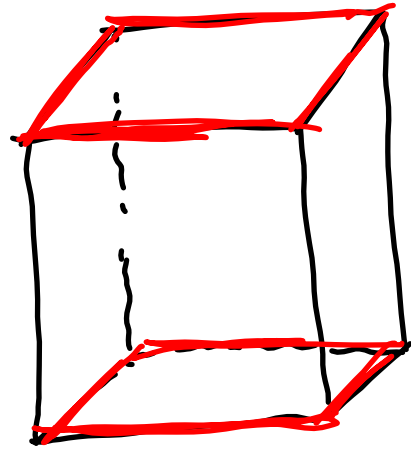


- Prism

↳ 3-D shape w/ rectangles for lateral faces + another shape for bases
↓
around side
↓
top + bottom

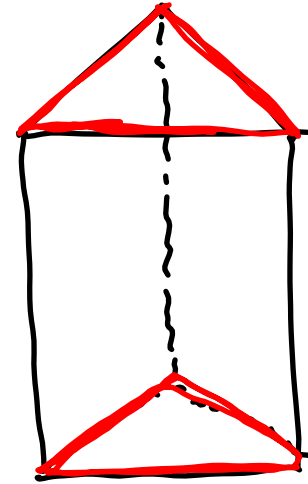
→ classified by shape of base

EX →



rectangular prism

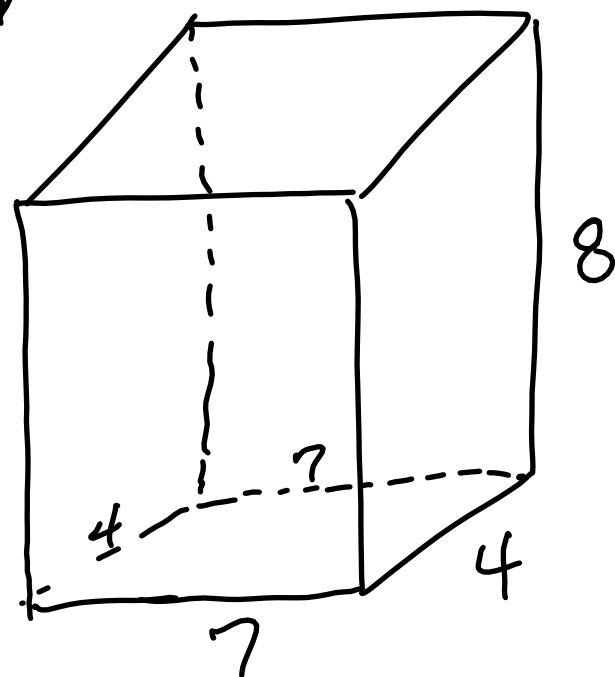
EX →



triangular prism

- Volume = Area of Base · Height = $B \cdot h$
- Lateral Area = Perimeter of Base · Height = $P \cdot h$
- Surface Area = Lateral Area + 2 · Area of Base = $LA + 2B$

EX →

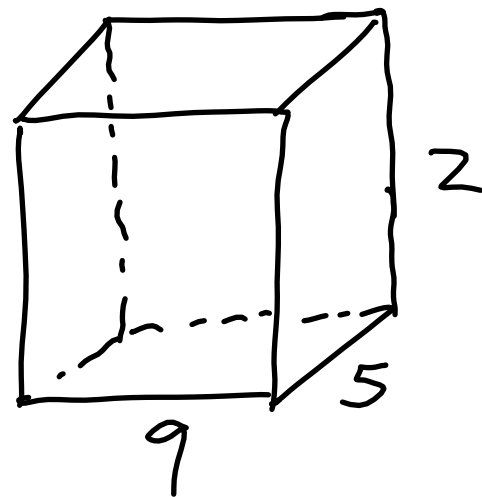


$$LA = (22)(8) = 176$$

$$SA = 176 + 2 \cdot 7 \cdot 4 = 176 + 56 = 232$$

$$V = 7 \cdot 4 \cdot 8 = 224$$

EX →



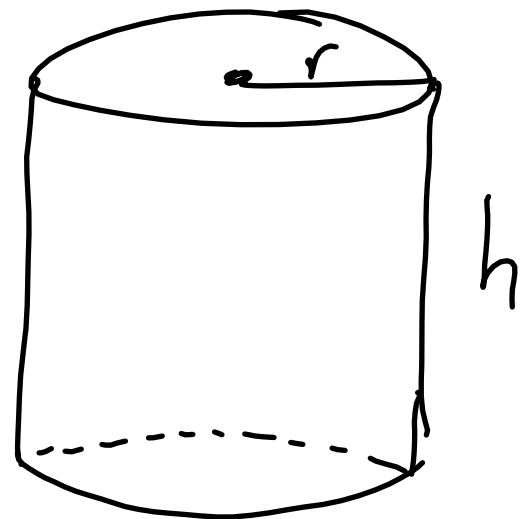
$$LA = (28)(2) = 56$$

$$SA = 56 + 2 \cdot 9 \cdot 5 = 56 + 90 = 146$$

$$V = 9 \cdot 5 \cdot 2 = 90$$

- Cylinder

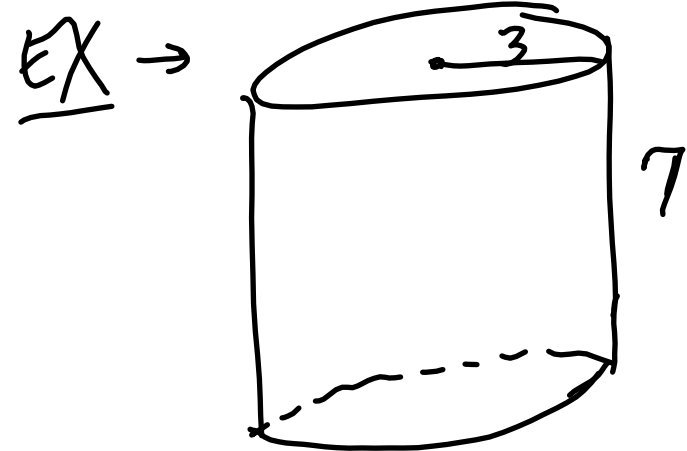
↳ bases are circles



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

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

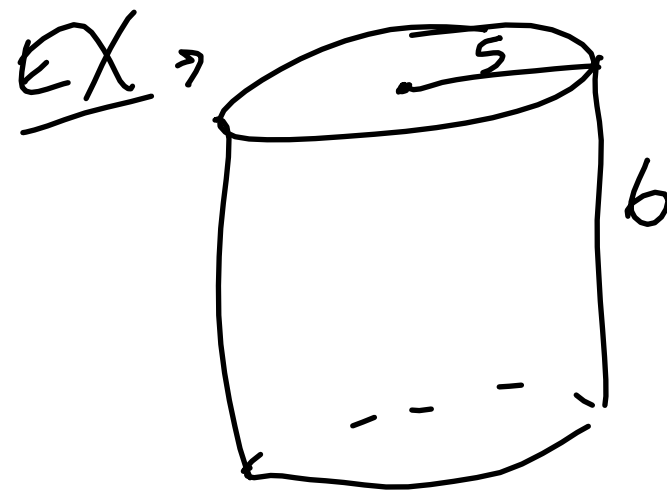
$$V = \pi r^2 \cdot h$$



$$LA = 6\pi \cdot 7 = 42\pi$$

$$SA = 42\pi + 2\pi(3)^2$$
$$= 42\pi + 18\pi = 60\pi$$

$$V = \pi(3)^2(7) = 63\pi$$



$$LA = 10\pi \cdot 6 = 60\pi$$

$$SA = 60\pi + 2\pi(5)^2$$

$$= 60\pi + 50\pi = 110\pi$$

$$V = \pi(5)^2 \cdot 6 = 150\pi$$

HW: p. 704 \rightarrow 14-21, 29

p. 721 \rightarrow 6-18 even