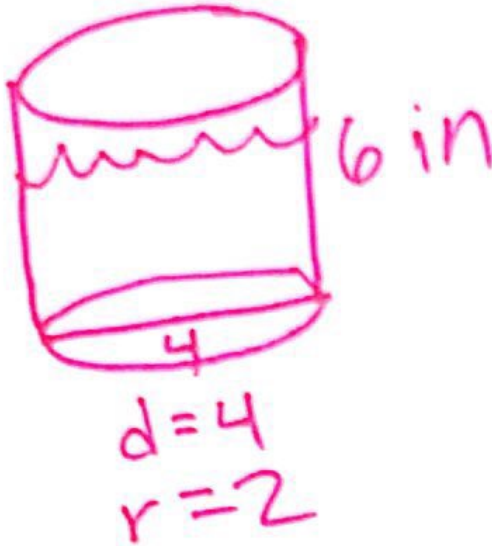


GUIDED NOTES: Geometric Modeling

EX1. Determine the surface area of a cylindrical glass with a height of 6 inches and a diameter of 4 inches.

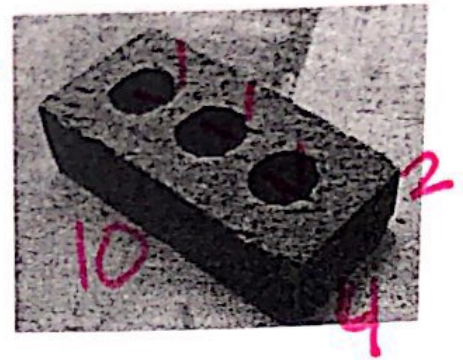


$$SA = \pi r^2 + \pi dh$$

$$SA = \pi 2^2 + \pi 4 \cdot 6$$

$$SA = 87.96 \text{ in}^2$$

EX2. A brick has a length of 10 inches, a width of 4 inches, and a height of 2 inches. There are three identical cylinders with a radius of 1 inch missing out of the middle of the brick. Determine the volume of the brick.



$$V = 10 \cdot 4 \cdot 2$$

$$V = 80$$

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

$$V = \pi 1^2 \cdot 2$$

$$V = (6.28) \cdot 3$$

$$V = 18.85$$

$$V = 80 - 18.85$$

$$V = 61.15 \text{ in}^3$$

