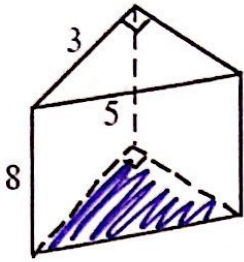


GUIDED NOTES: Surface Area

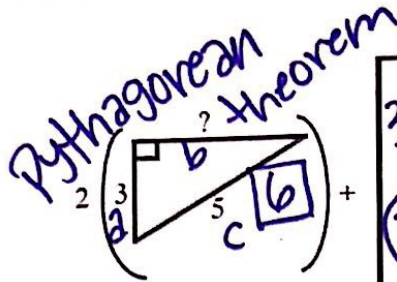
Surface Area - the sum of the area of all the shapes that assemble to make a 3D figure

EX1.



triangular prism

$$A_{\Delta} = \frac{bh}{2}$$



$$a^2 + b^2 = c^2$$

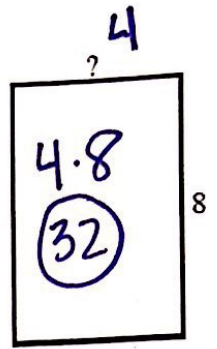
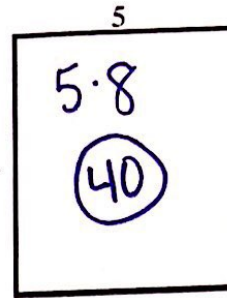
$$3^2 + b^2 = 5^2$$

$$9 + b^2 = 25$$

$$-9 \quad -9$$

$$\sqrt{b^2} = \sqrt{16}$$

$$b = 4$$

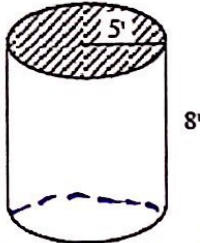


$$\frac{3 \cdot 4}{2} = 6$$

$$2(6) + 24 + 40 + 32$$

$$SA = 108 \text{ units}^2$$

EX2.



cylinder

$$A = \pi r^2$$

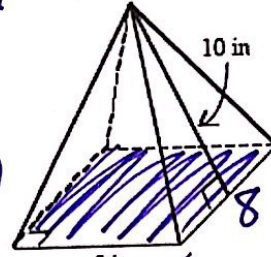
$$C = \pi d$$

$$= 2\pi r$$

$$2(\pi(5)^2) + 8(2\pi(5))$$

$$SA = 408.41 \text{ ft}^2$$

EX3.



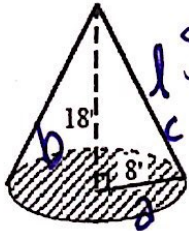
rectangular pyramid

$$8(8) + \left(\frac{8 \cdot 10}{2}\right) 4$$

$$SA = 224 \text{ in}^2$$

slant height

EX4.



cone

$$8^2 + 18^2 = l^2$$

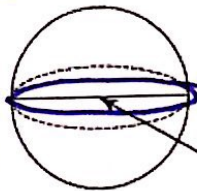
$$l = \sqrt{388}$$

$$SA_{\text{cone}} = \pi r l$$

$$SA = \pi(8)(\sqrt{388}) + \pi(8)^2$$

$$SA = 696.12 \text{ ft}^2$$

EX5.



$$SA_{\text{sphere}} = 4\pi r^2$$

$$\frac{12 \text{ mi}}{2} = r = 6$$

$$SA = 4\pi(6)^2$$

$$SA = 452.39 \text{ mi}^2$$