

7.2 Surface Area & Volume of Prisms

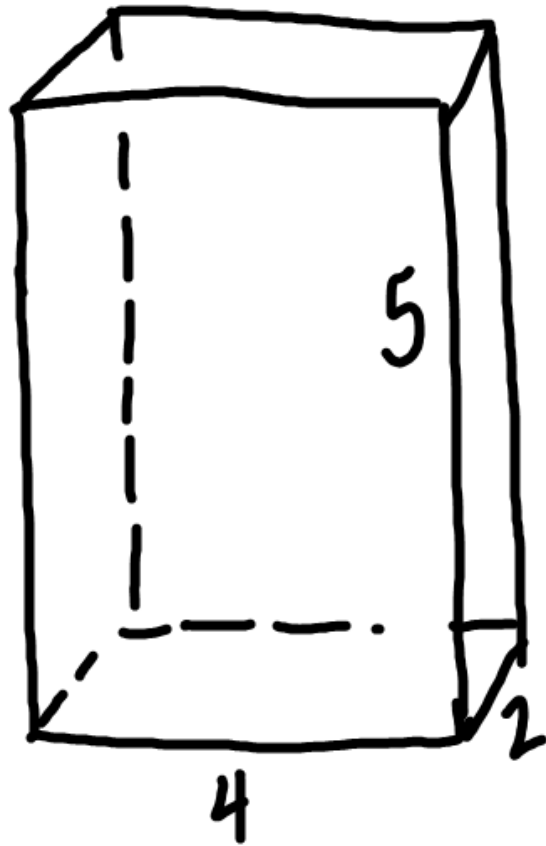
$$SA = L + 2B$$

$$SA = hp + 2B$$

p = perimeter of
base
 h = height of
prism

B = area of
1 base

L = lateral
surface
area



$$2'' \times 4'' \times 5''$$

$$SA = hp + 2B$$

$$SA = 5(12) + 2(8)$$

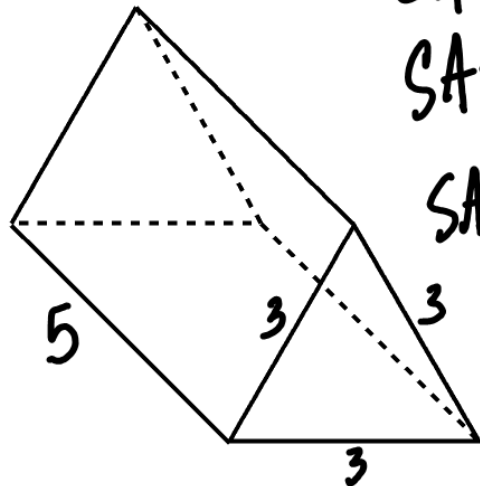
$$SA = 60 + 16$$

$$SA = 76 \text{ in}^2$$

$$SA = 2(4 \cdot 2) + 2(4 \cdot 5) + 2(2 \cdot 5)$$

$$SA = 16 + 40 + 20$$

$$SA = 76 \text{ in}^2$$



$$SA = hp + 2B$$

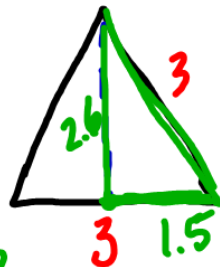
$$SA = 5(9) + 2(3.9)$$

$$SA = 45 + 7.8$$

$$SA = 52.8 \text{ units}^2$$

Area Δ

$$A = \frac{1}{2}bh$$



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

$$(1.5)^2 + b^2 = 3^2$$

$$2.25 + b^2 = 9$$

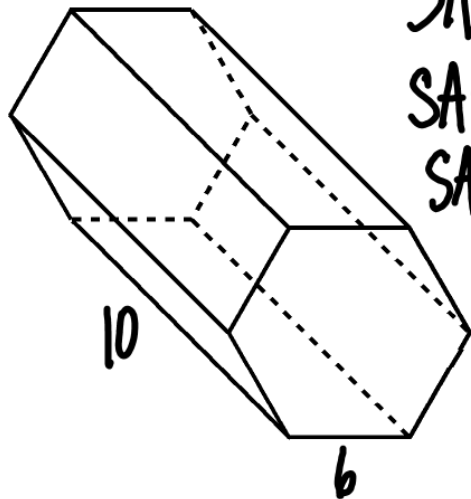
$$b^2 = 6.75$$

$$b = 2.6$$

$$A = \frac{1}{2}(3)(2.6)$$

$$A = 3.9$$

Area of Base

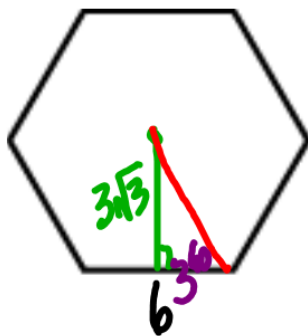


$$SA = hp + 2B$$

$$SA = 10(36) + 2(93.53)$$

$$SA = 360 + 187.06$$

$$SA = 547.06 \text{ units}^2$$



Area of a Regular Polygon

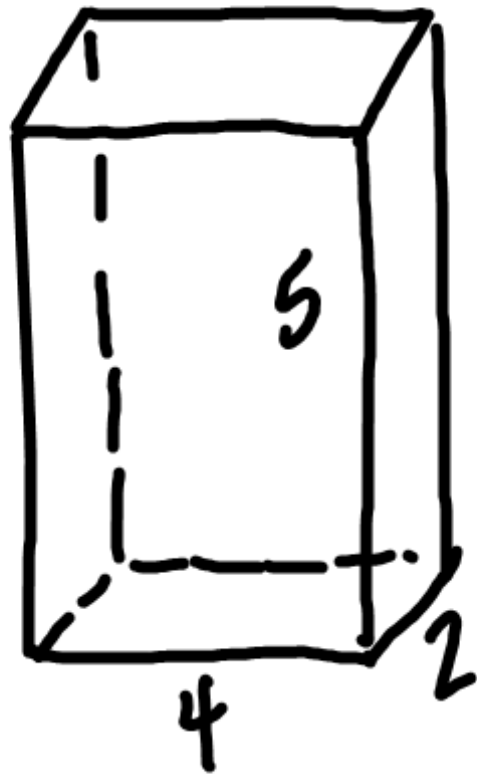
$$A = \frac{1}{2} a p$$

$$A = \frac{1}{2} (3\sqrt{3})(36)$$

$$A = 93.53 \text{ units}^2$$

Area of Hexagon

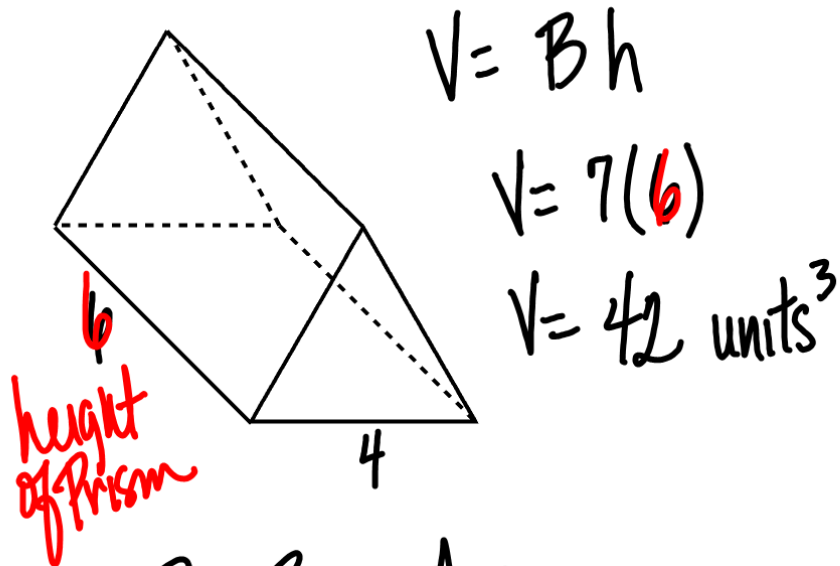
Area of 1 Base



$$V = lwh$$

$$V = (\text{Area of Base}) h$$

$$V = Bh$$



$B = \text{Base Area}$
 Area of a Triangle
 $A = \frac{1}{2}bh$

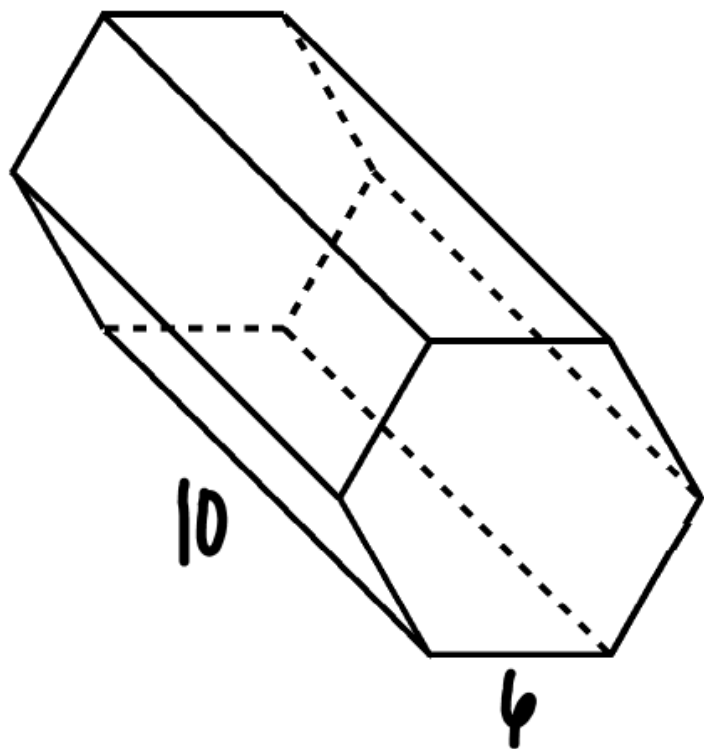
$A = \frac{1}{2}(4)(3.5)$

$A = 7 \text{ units}^2$

Area of Triangle
 Area of Base
 of Prism



$a^2 + b^2 = c^2$
 $2^2 + b^2 = 4^2$
 $4 + b^2 = 16 - 4$
 $b^2 = 12$
 $b = 3.5$
 $b = 2\sqrt{3}$



$$V = Bh$$

$$V = 93.53(10)$$

$$V = 935.3 \text{ units}^3$$

Area of Base $B = 93.53$
Area of Hexagon

Geometry Formulas

Name _____

Volume of a Rectangular Prism $V = lwh$

	Formula
Surface Area of a Rectangular Prism	$SA = 2lw + 2lh + 2wh$
Surface Area of a Cube	$SA = 6s^2$
Surface Area of a Right Prism	$SA = Lt + 2B$ $SA = hp + 2B$
Volume of a Cube	$V = s^3$
Volume of a Right Prism	$V = Bh$
Surface Area of a Regular Pyramid	
Volume of a Pyramid	

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