5-31-17

Aim: SWBAT find the estimated surface area and volume of a prism or pyramid.

Do Now: Check hw

HW: 3-D Assessment Friday (Open notes)
Final Review Packet due Friday

Pg. 557

1. Surface Area is total area of all the flat surfaces that make up the shape and volume is the amount of space the shape occupies.

2. base; height

(3) $V = Bh$
$V = (6 \cdot 2)(11)$
$V = 132\ m^3$

(4) $V = Bh$
$V = (7 \cdot 7)(7)$
$V = 343\ in.^3$

(13) $V = Bh$
$V = (8 \cdot 4)(2)$
$V = 64\ yd^3$

(15) $V = Bh$
$V = (\frac{1}{2} \cdot 7 \cdot 24)(15)$
$V = 1260\ m^3$

Pg. 568 # 5, 6, 8, 9, 11, 12

(5) $V = \frac{1}{3}Bh$

$V = \frac{1}{3}(9)(4)$

$V = 12\ in^3$

(6) $V = \frac{1}{3}Bh$

$V = \frac{1}{3}(12)(15)$

$V = 60\ ft^3$

(8) $V = \frac{1}{3}Bh$

$V = \frac{1}{3}(15 \cdot 15)(4)$

$V = \frac{1}{3}(900)$

$V = 300\ m^3$

(9) $V = \frac{1}{3}Bh$

$V = \frac{1}{3}(12 \cdot 12)(3)$

$V = \frac{1}{3}(432)$

$V = 144\ yd.^3$

(11) $V = \frac{1}{3}Bh$

$V = \frac{1}{3}(16 \cdot 24)(20)$

$V = \frac{1}{3}(7680)$

$V = 2560\ m^3$

(12) $V = \frac{1}{3}Bh$

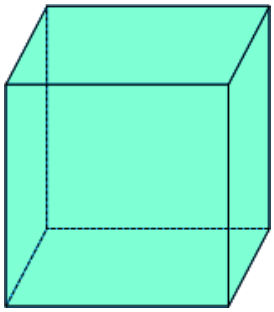
$V = \frac{1}{3}(25 \cdot 29)(17)$

$V = \frac{1}{3}(12325)$

$V = 4108.333\ldots$

$V \approx 4108.3\ in^3$

Cube



3.6 in.

≈ 4 in.

Find the estimated surface area.

$SA = 2B + Ph$

$SA \approx 2(4 \cdot 4) + (4+4+4+4)(4)$

$SA \approx 2(16) + (16)(4)$

$SA \approx 32 + 64$

$SA \approx 96 \text{ in.}^2$

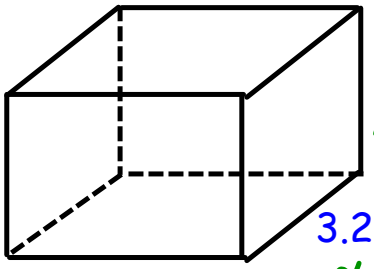
Find the estimated volume.

$V = Bh$

$V \approx (4 \cdot 4) \cdot 4$

$V \approx 64 \text{ in.}^3$

Rectangular Prism



Find the estimated surface area.

$SA = 2B + Ph$

$SA \approx 2(4 \cdot 3) + (4+4+3+3)(2)$

$SA \approx 2 \cdot 12 + 14 \cdot 2$

$SA \approx 24 + 28$

$SA \approx 52 \text{ in.}^2$

Find the estimated volume.

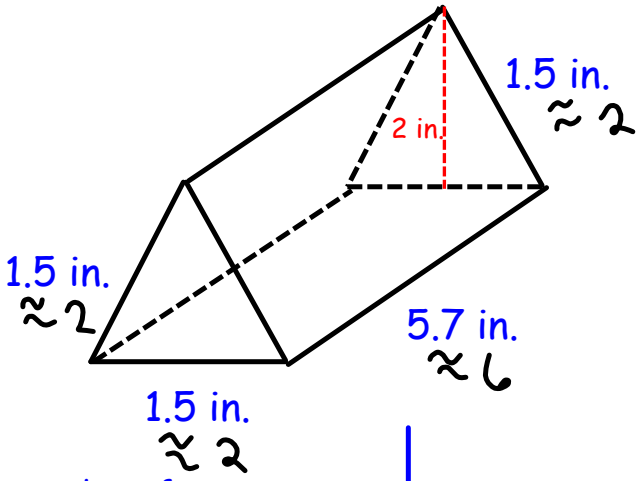
$V = Bh$

$V \approx (4 \cdot 3) \cdot 2$

$V \approx 24 \text{ in.}^3$

Triangular Prism

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



Find the estimated surface area.

$SA = 2B + Ph$

$SA \approx 2\left(\frac{2 \cdot 2}{2}\right) + (2+2+2) \cdot 6$

$SA \approx 2 \cdot 2 + 6 \cdot 6$

$SA \approx 4 + 36$

$SA \approx 40 \text{ in.}^2$

Find the estimated volume.

$V = Bh$

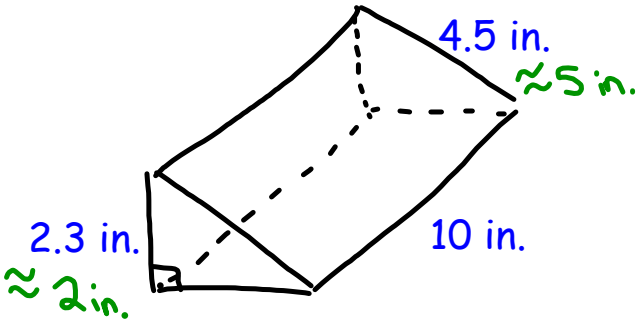
$V \approx \left(\frac{2 \cdot 2}{2}\right) \cdot 6$

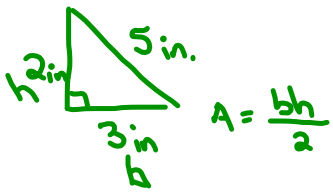
$V \approx 2 \cdot 6$

$V \approx 12 \text{ in.}^3$

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

Triangular Prism





Find the estimated surface area.

$SA = 2B + Ph$

$SA \approx 2\left(\frac{3 \cdot 2}{2}\right) + (2+3+5) \cdot 10$

$SA \approx 2 \cdot 3 + 10 \cdot 10$

$SA \approx 6 + 100$

$SA \approx 106 \text{ in.}^2$

Find the estimated volume.

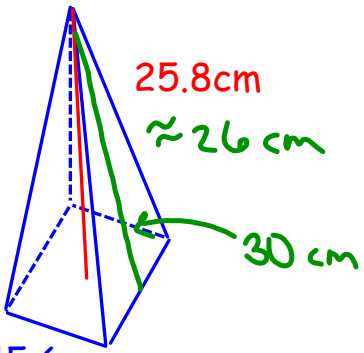
$V = Bh$

$V \approx \left(\frac{3 \cdot 2}{2}\right) \cdot 10$

$V \approx 3 \cdot 10$

$V \approx 30 \text{ in.}^3$

Square Pyramid



Find the estimated surface area.

$SA = B + \frac{1}{2}Pl$

$SA \approx (16 \cdot 16) + \frac{1}{2}(16+16+16+16)(30)$

$SA \approx 256 + \frac{1}{2}(64)(30)$

$SA \approx 256 + 960$

$SA \approx 1216\ cm^2$

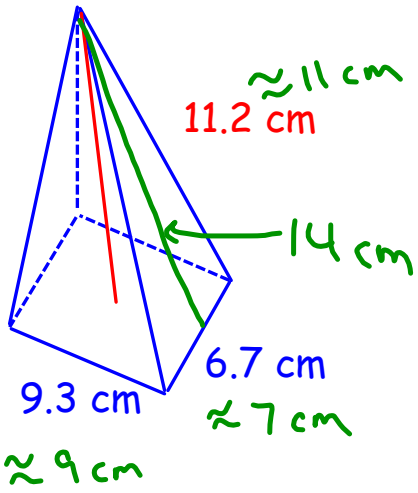
Find the estimated volume.

$V = \frac{1}{3}Bh$

$V \approx \frac{1}{3}(16 \cdot 16) \cdot 26$

$V \approx 2218\frac{2}{3}\ cm^3$

Rectangular Pyramid



Find the estimated surface area.

$SA = B + \frac{1}{2}Pl$

$SA \approx (9.7) + \frac{1}{2}(9+7+9+7)(14)$

$SA \approx 63 + \frac{1}{2}(32)(14)$

$SA \approx 63 + 224$

$SA \approx 287\ cm^2$

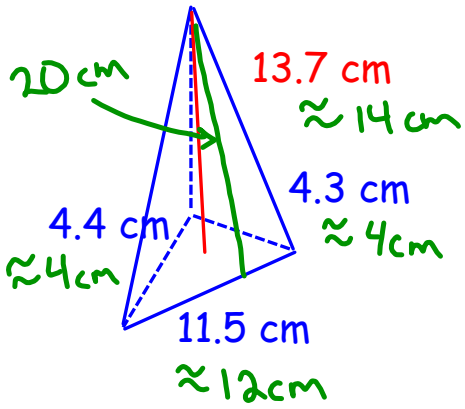
Find the estimated volume.

$V = \frac{1}{3}Bh$

$V \approx \frac{1}{3}(9.7)(11)$

$V \approx 231\ cm^3$

Triangular Pyramid



Find the estimated surface area.

$SA = B + \frac{1}{2}Pl$

$SA \approx \left(\frac{4.4}{2}\right) + \frac{1}{2}(4+4+12)(20)$

$SA \approx 8 + \frac{1}{2}(20)(20)$

$SA \approx 8 + 200$

$SA \approx 208\ cm^2$

Find the estimated volume.

$V = \frac{1}{3}Bh$

$V \approx \frac{1}{3}\left(\frac{4.4}{2}\right)(14)$

$V \approx \frac{1}{3}(8)(14)$

$V \approx 37\frac{1}{3}\ cm^3$