

Mr. Hagen

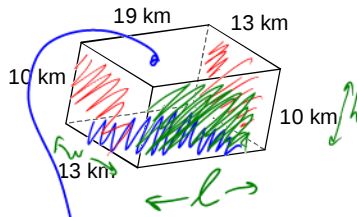
Lesson #2 - Rectangular and Triangular Prisms

Date

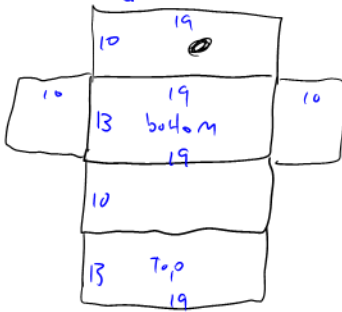
Feb 1, 2018

Draw the net, then find the surface area and volume of each figure.

1)



Net:



$$S.A. = 2lw + 2wh + 2lh$$

$$SA = 2(19)(13) + 2(13)(10) + 2(19)(10)$$

$$SA = 494 + 260 + 380$$

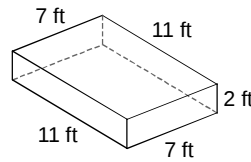
$$SA = 1134 \text{ km}^2$$

$$V = lwh$$

$$V = (19)(13)(10)$$

$$V = 2470 \text{ km}^3$$

2)



$$l = 11$$

$$w = 7$$

$$h = 2$$

$$SA = 2lw + 2wh + 2lh$$

$$SA = 2(11)(7) + 2(7)(2) + 2(11)(2)$$

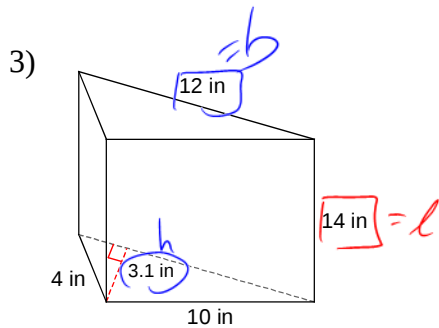
$$SA = 154 + 28 + 44$$

$$SA = 226 \text{ ft}^2$$

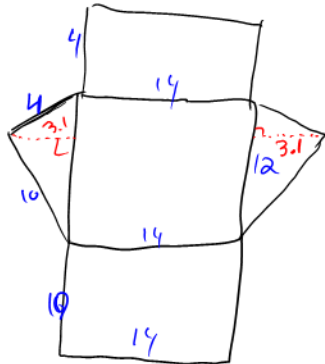
$$V = lwh$$

$$V = (11)(7)(2)$$

$$V = 154 \text{ ft}^3$$



Net:

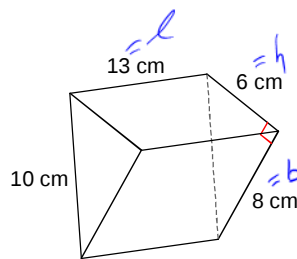


how far apart
are the triangles?

$$V = \frac{bh\ell}{2}$$

$$V = \frac{(12)(3.1)(10)}{2}$$

$$V = 260.4 \text{ in}^3$$



$$S.A. = 2\Delta + 3\Box$$

$$S.A. = 2\left(\frac{(6)(8)}{2}\right) + (10 + 8 + 6)(10)$$

$$S.A. = 48 + 312$$

$$S.A. = 360 \text{ cm}^2$$

$$S.A. = 2\Delta + 3\Box$$

$$S.A. = 2\left(\frac{(6)(8)}{2}\right) + (10)(14) + (12)(14) + (10)(14)$$

$$S.A. = 2\left(\frac{(12)(3.1)}{2}\right) + (4 + 12 + 10)(10)$$

$$S.A. = 37.2 + 364$$

$$S.A. = 401.2 \text{ in}^2$$

$$V = \frac{bh\ell}{2}$$

$$V = \frac{(6)(8)(10)}{2}$$

$$V = 312 \text{ cm}^3$$

Use the appropriate formula to solve for the missing measurement.

- 5) A rectangular prism has a **volume** of 5940 cm^3 with a height of 15 cm and a length of 33 cm . What is the width of the box?

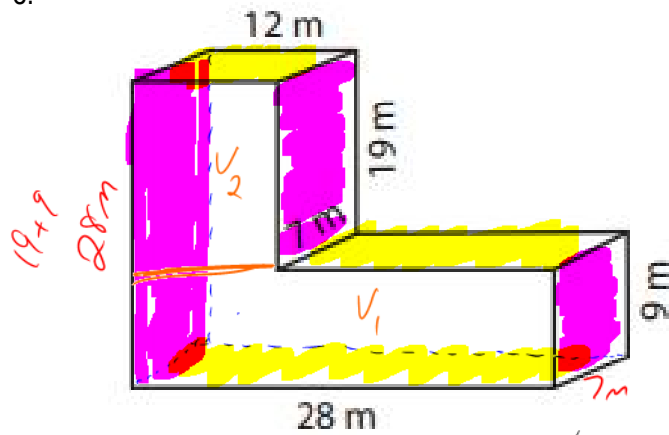
$$V = lwh$$

$$5940 = (33)w(15)$$

$$\frac{5940}{495} = \frac{495w}{495}$$

Find the surface area and the volume of the L-Block.

6.



$$V_1 = lwh$$

$$V_1 = (28)(7)(9)$$

$$V_1 = 1764$$

$$V_2 = lwh$$

$$V_2 = (7)(19)(12)$$

$$V_2 = 1596$$

$$V = 3360 \text{ m}^3$$

① S.A. of top and bottom

$$SA = 2(28)(7)$$

$$SA = 392 \text{ m}^2$$

② SA of the sides

$$SA = 2(28)(9)$$

$$SA = 504 \text{ m}^2$$

③ Front and back.

$$SA = 2(28)(9)$$

$$= 504 \text{ m}^2$$

$$\text{AND } SA = 2(12)(19)$$

$$= 456 \text{ m}^2$$

$\therefore$ the total surface Area is

$$1744 \text{ m}^2$$

7.

