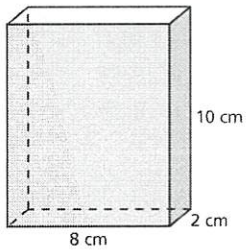
Name Answers Date

Geometry – Volume of Prisms

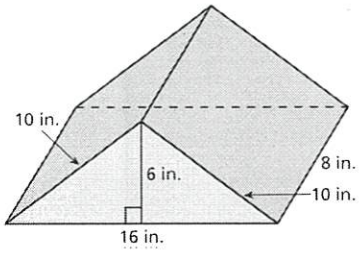
Find the volume. Show all work.

1)



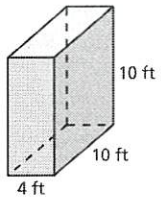
$V = BH$
$= lwH$
$= 8 \times 2 \times 10$
$= 160\ cm^3$

2)



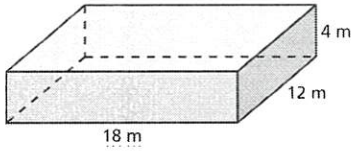
$V = BH$
$= \frac{1}{2}bhH$
$= \frac{1}{2} \times 16 \times 6 \times 8$
$= 384\ in^3$

3)



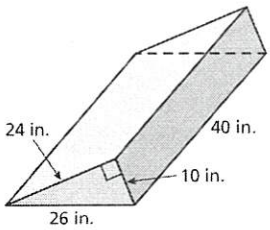
$V = BH$
$= lwH$
$= 10 \times 4 \times 10$
$= 400\ ft^3$

4)



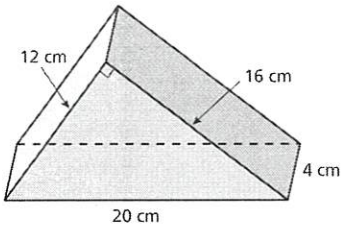
$V = BH$
$= lwH$
$= 18 \times 12 \times 4$
$= 864\ m^3$

5)



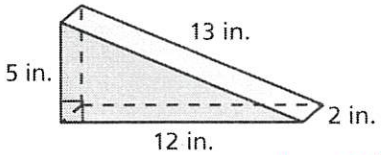
$V = BH$
$= \frac{1}{2}bh \cdot H$
$= \frac{1}{2} \cdot 24 \cdot 10 \cdot 40$
$= 4800\ in^3$

6)



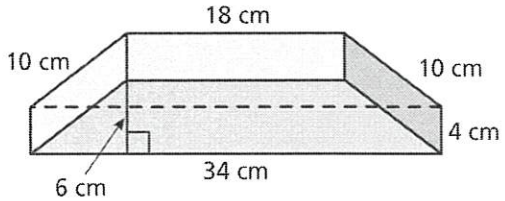
$V = BH$
$= \frac{1}{2}bh \cdot H$
$= \frac{1}{2} \cdot 12 \cdot 16 \times 4$
$= 384\ cm^3$

7)



$V = BH$
$= \frac{1}{2}bh \cdot H$
$= \frac{1}{2} \cdot 12 \cdot 5 \cdot 2$
$= 60\ in^3$

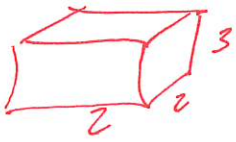
8)



$V = BH$
$= \frac{1}{2}(b_1 + b_2)h \cdot H$
$= \frac{1}{2}(18 + 34) \cdot 6 \cdot 4$
$= 624\ cm^3$

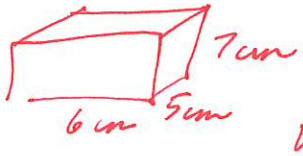
Make a sketch of the rectangular prism with the given dimensions. Then find its volume.

9) length = 2 in., width = 2 in., height = 3 in.



$V = BH$
$= lw \cdot H$
$= 2 \times 2 \times 3$
$= 12\ in^3$

10) length = 5 cm, width = 6 cm, height = 7 cm



$V = BH$
$= lw \cdot H$
$= 5 \times 6 \times 7$
$= 210\ cm^3$

Find the height of the rectangular prism. Show all algebraic work.

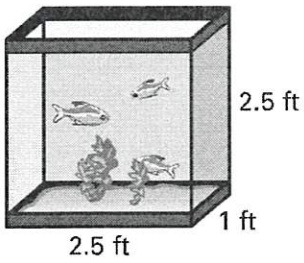
11) $V = 120\ mm^3$
$\ell = 5$ mm
$w = 8$ mm
$h =$ ____

$V = B \cdot H$
$V = lwH$
$120 = 5 \times 8 \times H$
$\frac{120}{40} = \frac{40H}{40}$
$3\ mm = H$

12) $V = 720\ ft^3$
$\ell = 10$ ft
$w = 8$ ft
$h =$ ____

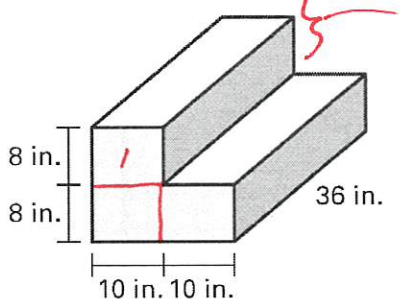
$V = BH$
$720 = lwH$
$720 = 10 \times 8 \times H$
$\frac{720}{80} = \frac{80H}{80}$
$9\ ft = H$

13) Find the volume of the aquarium shown.



$V = BH$
$V = lw \cdot H$
$V = 2.5 \times 1 \times 2.5$
$= 6.25\ ft^3$

14) You are building the steps shown below. How many cubic inches of concrete will you need to make the steps?



$V_1 = BH$
$V_1 = l \cdot w \cdot H$
$= 10 \times 36 \times 8$
$= 2880\ in^3$

Tot. Vol $= 3 \times 2880 = 8640\ in^3$