Lauren M.

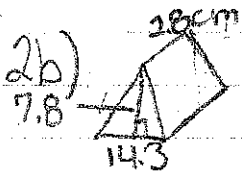
Worksheet

11 | 17

2a)

= Abase × length
= l × w × length
= 8.6 × 4.1 × 14.7
= 35.26 × 14.7
= 518.3.2 cm³

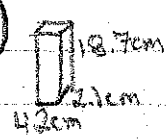
2b)



(depth)
(length)

V = Area of base × height
= A△ × thickness.
= b×h × length
2
= 14.3×7.8 × 2.8
2
= 111.54 × 2.8
2
= 55.77 × 2.8
= 156.156 cm³

2c)



= Abase × length
= l × w × length
= 4.2 × 2.1 × 18.7
= 8.8 × 18.7
= 164.9 cm³

2d) = Abase × length
= b×h × length
2
= 22×6.1 × 3.5
2
= 469.7 cm³

3a) Abase × length
= l × w × length
= 6 × 8 × 8
= 384 × 3 → three cubes.
= 1152 cm³

3d) Shape △ + Shape □
= Abase × length + Abase × length
= b×h × length + l × w × length
2 + 5×3 × 14
= 4×3×3 + 210
2
= 18 cm²

= 210 + 18 = 228 cm³

3c) Shape 1:
= Abase × length
= l × w × length
= 4 × 4 × 12
= 16 × 12
= 192 cm³

Shape 2:
= Abase × length
= l × w × length
= 8 × 6 × 20
= 960 cm³

Shape 1 + Shape 2 = Total Volume = 192 + 960 = 1152 cm³

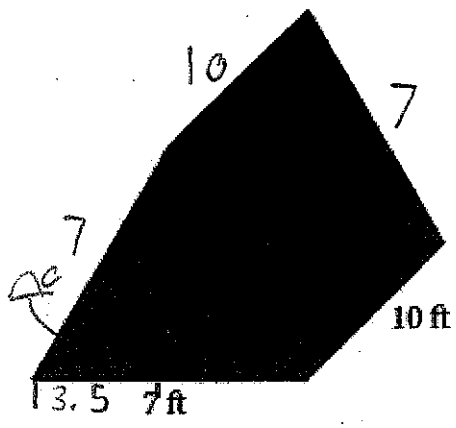
Mrs. Peden Name: Xavier Date: _____

A tent is in the shape of an equilateral triangular prism. How much space is there inside the tent?

V = AofB x H
V = 7x10x6
V = 70x6
V = 420ft3

∴ The tent has a volume of 420ft3

H = Length
$a^2 + b^2 = a^2$
$7^2 - 3.5 = a^2$
$7x7 - 3.5x3.5 = a^2$
$49 - 12.25 = 36.75$
$\sqrt{36.75} = 6$ ft
H = 6ft



b) How much material was required to make the tent?

$A_{\triangle 7} = 7 \times 6 \times 2 \div 2$
$= 42 ft^2$

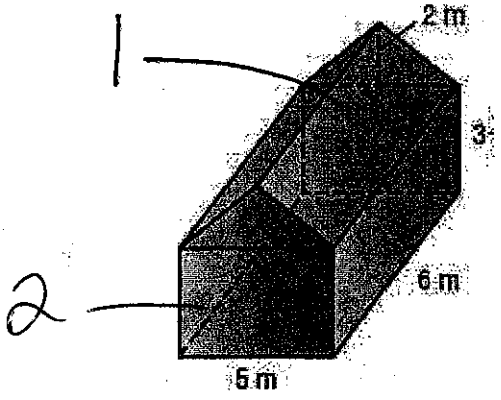
$A_{10 \times 7} = 10 \times 7 \times 3$ (identical rectangles)
$= 70 \times 3$
$= 210 ft^2$

S.A = 42 + 210
S.A = 252ft2

∴ It took 252 ft² of material to make the tent.

CONSTRUCTION

The dimensions of a new greenhouse are shown below. How many cubic meters of space will the tree house contain?



V of Shape 1 = AofB x H
V = (6x5x2) ÷ 2
V = (30x2) ÷ 2
V = 30m3

V of Shape 2 = AofB x H
V = 6x5x3
V = 90m3

V = 30 + 90
V = 120m3