Warm Up Grade 8
May 17

Mental Math

1. 15 x 7 x 2 x 3 =

15x2 x 7x3
30 x 21
630

2. 90 - 31 =

90 - 30 = 60 - 1
= 59
too few
Need to subtract more

3. 45% of 60 =

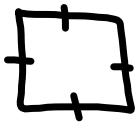
10% of 60 = 6 x4
40% of 60 = 24
5% of 60 = 3 ÷2
45% of 60 = 27

Assessment Review

4)The area of one face of a cube is 25 cm^2.

a)What is the surface area of the cube?

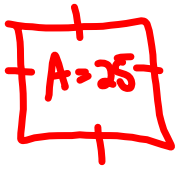
b) What is the side length of the cube?



cube has 6 equal faces → squares
Given $A_{face} = 25cm^2$

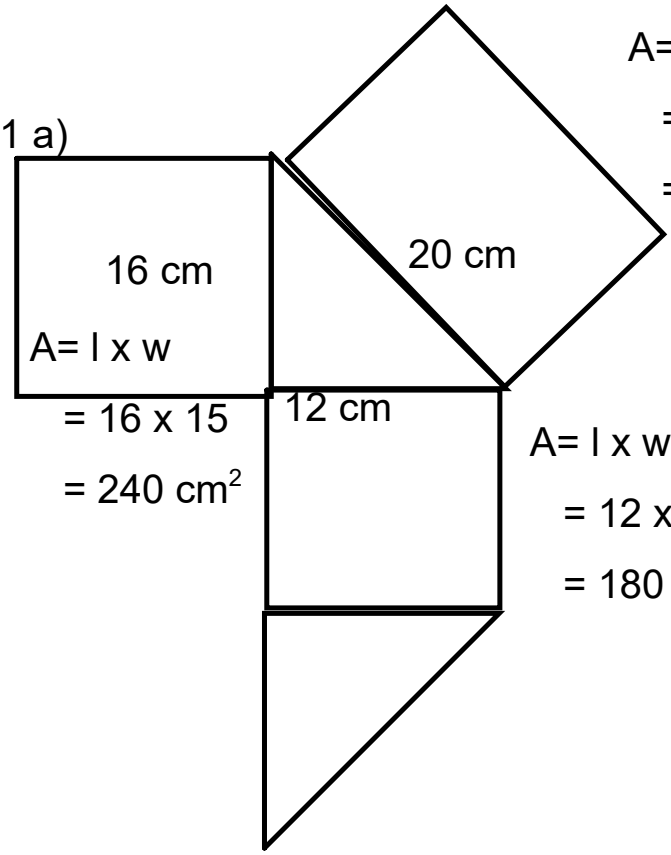
a) Total SA cube = 6 x A_{face}
= 6 x $25cm^2$
= $150cm^2$

b)



Side = $\sqrt{area}$
Side = $\sqrt{25}$
Side = 5

#11 a)



A= l x w

= 16 x 15

= 240 cm^2

A= l x w

= 20 x 15

= 300 cm^2

A= l x w

= 12 x 15

= 180 cm^2

Atri = (bxh)/2

= (12 x 16) /2

= (192) / 2

= 96 cm^2

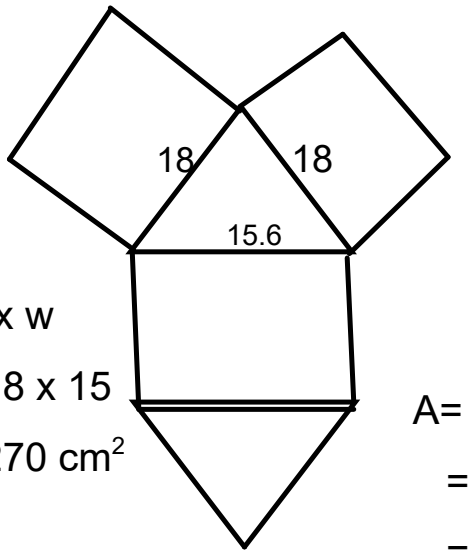
Total SA = 2 Tri + rec + rec + rec

= 2(96) + 180 + 240 + 300

= 192 + 180 +240 + 300

= 912 cm^2

#11 b)



A= l x w

= 18 x 15

= 270cm^2

A= l x w

= 18 x 15

= 270 cm^2

A= l x w

= 15.6x 15.

= 234 cm^2

Atri = (bxh)/2

= (15.6 x 15.6) /2

= (243.36) / 2

= 121.68 cm^2

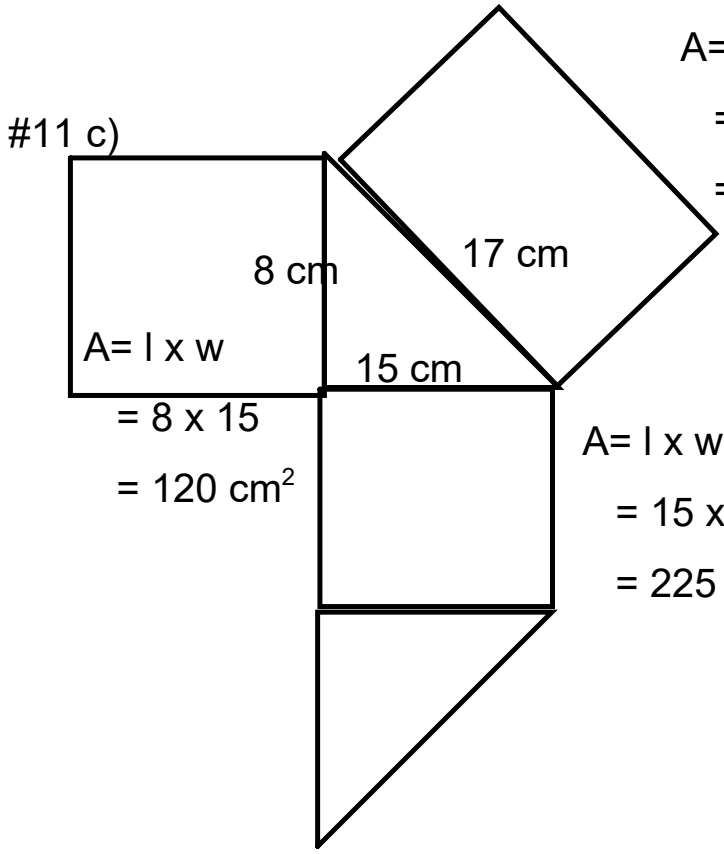
Total SA = 2 Tri + rec + rec + rec

= 2(121.36) + 270 + 270 + 234

= 243.36 + 270 +270 + 234

= 1017.36 cm^2

#11 c)



A= l x w

= 8 x 15

= 120 cm^2

A= l x w

= 17 x 15

= 255 cm^2

A= l x w

= 15 x 15

= 225 cm^2

Atri = (bxh)/2

= (8x 15) /2

= (120) / 2

= 60 cm^2

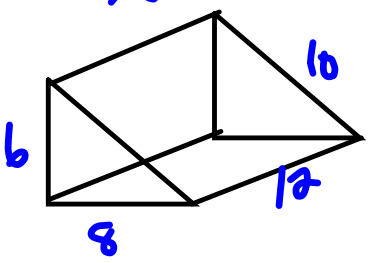
Total SA = 2 Tri + rec + rec + rec

= 2(60) + 120 + 255 + 225

= 120 + 120 +255 + 225

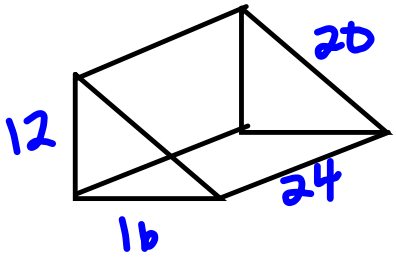
= 720 cm^2

12. Using 96cm²



SA = 236.

Double each



$A_\Delta = \frac{b \times h}{2}$

$= \frac{12 \times 16}{2}$

$= \frac{192}{2}$

$= 96 cm^2$

3 faces

$A = 12 \times 24$

$= 288$

$A = 16 \times 24$

$= 384$

$A = 20 \times 24$

$= 480$

$SA = 2 \times 96 + 288 + 384 + 480$

$= 192 + 288 + 384 + 480$

$= 1344$

$236 \times 2 = 472$, which is much lower than $1344 cm^2$

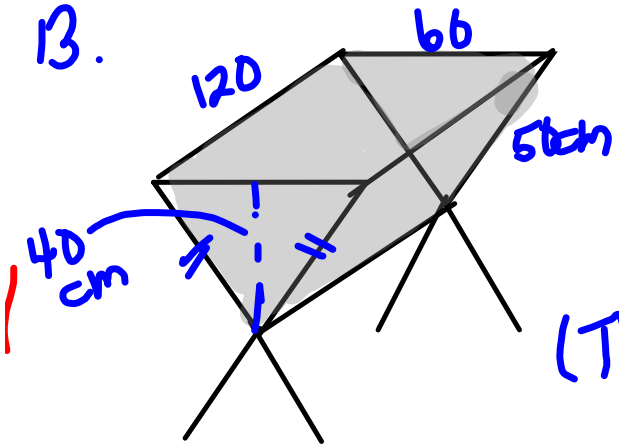
Really 4 times lower

$A = l \times w$

$= 2l \times 2w$

$= 4 \times l \times w$

13.

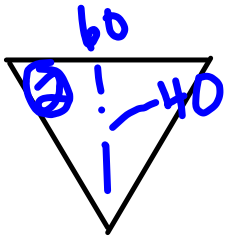


Water Trough

→ Faces

2 triangles, 2 rectangle

(The is no face on the top)

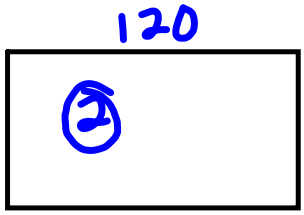


$A = \frac{b \times h}{2}$

$= \frac{60 \times 40}{2}$

$= \frac{2400}{2}$

$= 1200$



$A = lw$

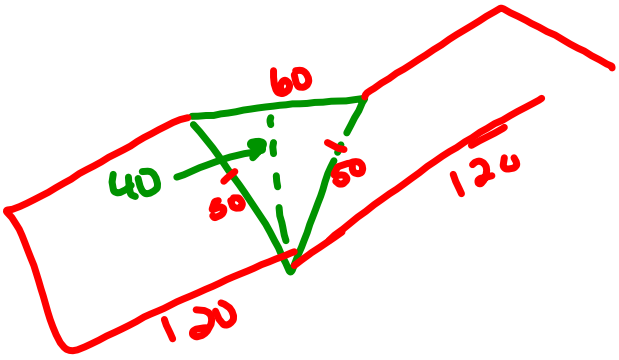
$= 120 \times 50$

$= 6000$

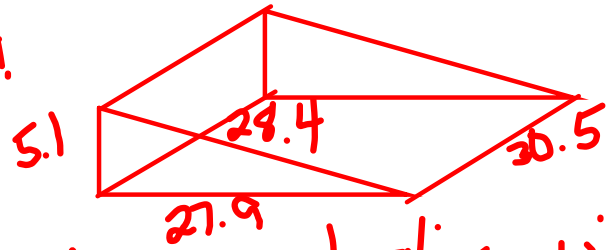
Area of metal $= 2 \times 1200 + 2 \times 6000$

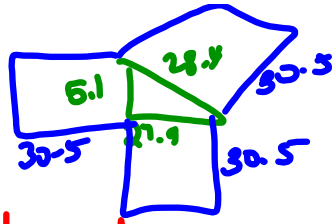
$= 2400 + 12\,000$

$= 14\,400\ cm$

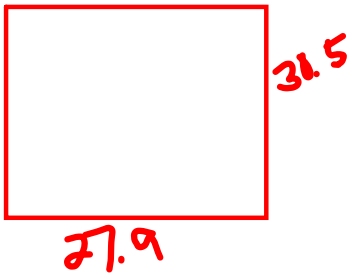

60
40
50
60
120
120

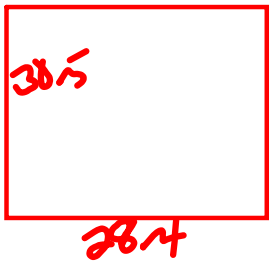
14.

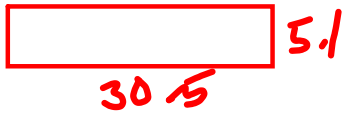




Binder, so plastic will only go on the rectangular faces.







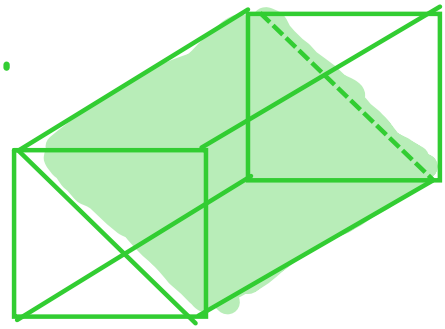
$A = l \times w$
$= 27.9 \times 30.5$
$= 850.95$

$A = l \times w$
$= 28.4 \times 30.5$
$= 866.2$

$A = l \times w$
$= 30.5 \times 5.1$
$= 155.55$

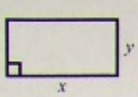
Plastic Needed $= 850.95 + 866.2 + 155.55$
$= 1872.7 cm^2$

15.

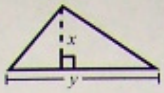


If you cut it in half the SA of the triangular prism will be more than half the SA of the rectangular prism because you have to include the slant face in the cut

Mathematics Assessment at Grade 8
Formula Sheet

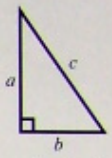


Area $A = xy$
Perimeter $P = 2x + 2y$



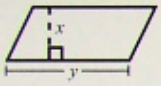
Area $A = \frac{1}{2}xy$ or $\frac{xy}{2}$

Pythagorean Theorem

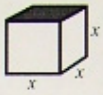


$c^2 = a^2 + b^2$

Cube

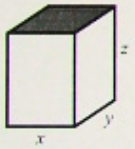


Area $A = xy$



Volume $V = x^3$
Surface Area $= 6x^2$

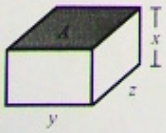
*For the provincial assessment, it is acceptable to round the value of π to 3.14.



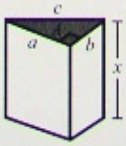
Volume $V = xyz$
Surface Area $= 2xy + 2xz + 2yz$

*Area $A = \pi r^2$
Circumference $C = \pi d$ or $C = 2\pi r$

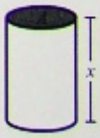
$1\,cm^3 = 1\,mL$



Volume $V = Ax$

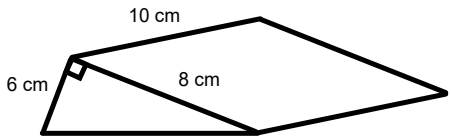


Volume $V = Ax$
Surface Area $= 2(\frac{1}{2}ab) + ax + bx + cx$

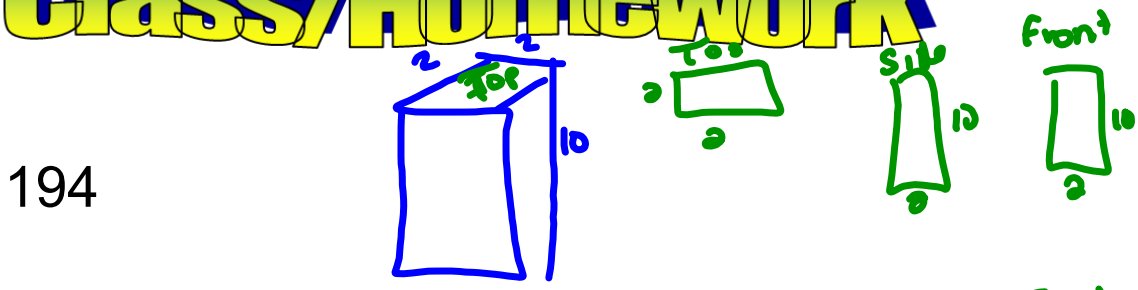


Volume $V = Ax$
Surface Area $= 2\pi r^2 + \pi dx$ or $2\pi r^2 + 2\pi rx$

Find the surface area of the wedge of cheese shown.



Class/Homework



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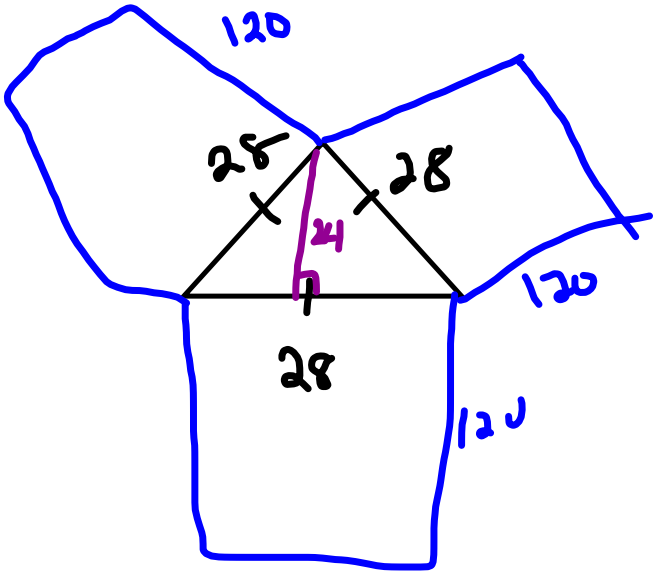
#3 to #5,

Sheet #2 to #5

Quiz (TOMORROW)


120
28
28
24
120
28
120

Attachments

Review of Surface area of 2D Shape Grade 8 Unit 4 PDF.pdf

Surface Area of Prisms WS Review PDF.pdf