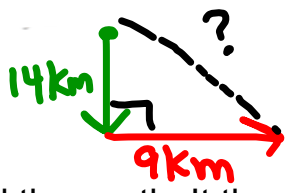
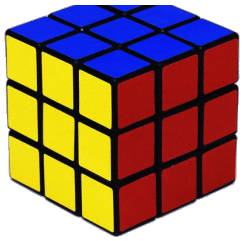
Warm Up Grade 8





Assessment Review

1. A ship travels for 14 km toward the south. It then changes direction and travels for 9 km toward the east. How far does the ship have to travel to return directly to its starting point?

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

$c^2 = (14\text{km})^2 + (9\text{km})^2$

14×14

$c^2 = 196\text{km}^2 + 81\text{km}^2$

$c^2 = 277\text{km}^2$

$\sqrt{c^2} = \sqrt{277\text{km}^2}$

$c \approx 16.6\text{km}$

2. Show work and answer.

a) $\frac{3}{4} \div \frac{1}{4}$

flip and Multiply

$\frac{3}{4} \times \frac{4}{1}$

$\frac{12}{4}$

$= 3$

b) $\sqrt{36} + \sqrt{25}$

$6 + 5$

11

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Homework Solutions

1) A pyramid will have Triangles for faces and 1 base shape
A Prism will have 2 base shapes and rectangles for side faces

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3a) A is not a net since both circles are on the same side

b) B is a net, it will form a cylinder

4. a) Right Triangular Prism
b) - make object
c) It has 2 triangle (right) faces and 3 rectangles

5. Net C → Triangular Pyramid (1st row – left) Faces 4 triangles

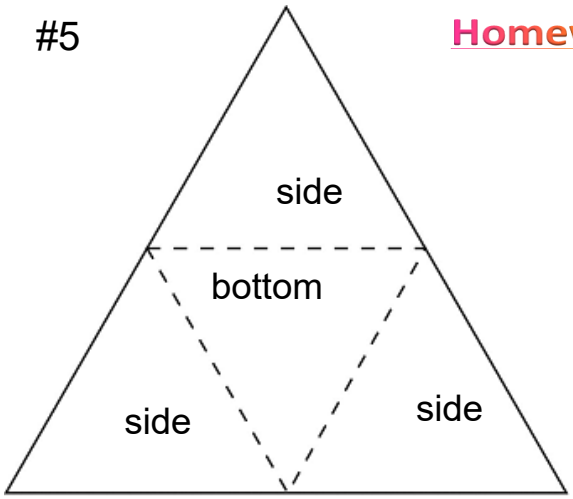
Net D → Triangular Prism (1st row middle) 2 triangles 3 rectangles

Net E → Hexagonal Prism (1st row – right) 2 hexagons 6 rectangles

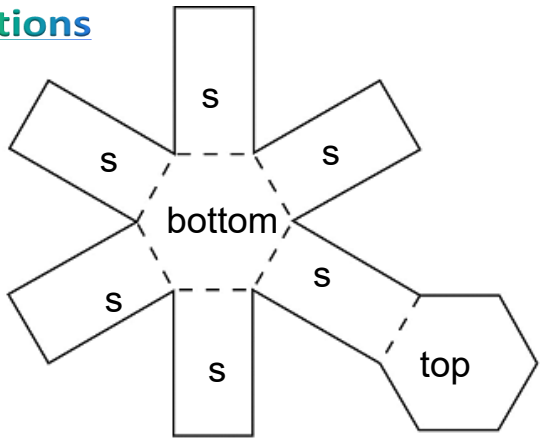
Net F → Cube with Square Pyramid on top (2nd row – left) 4 triangles 5 square

#5

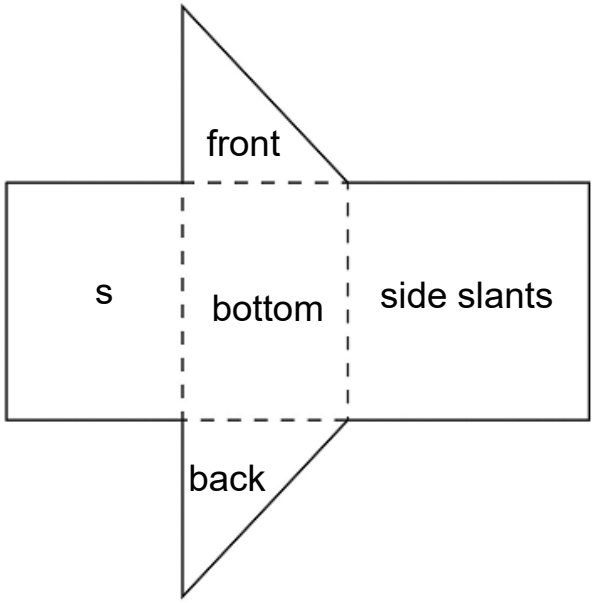
Homework Solutions



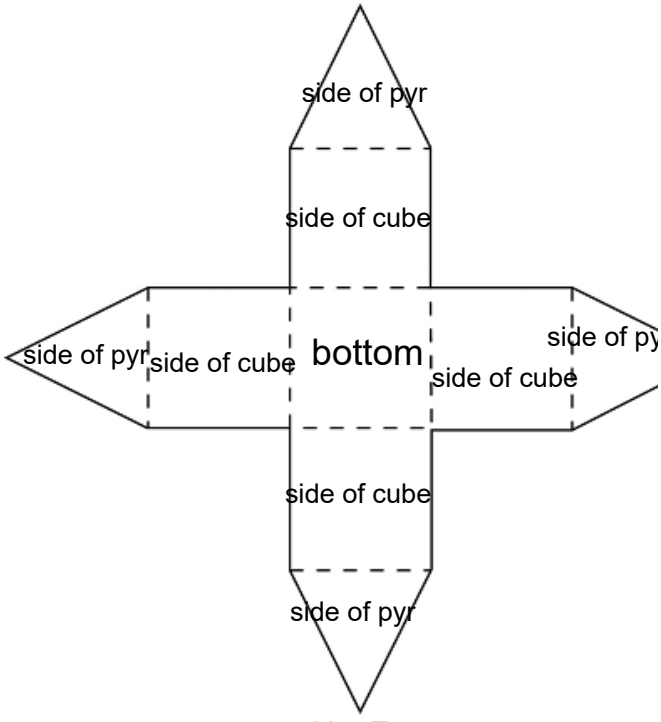
Net C



Net E

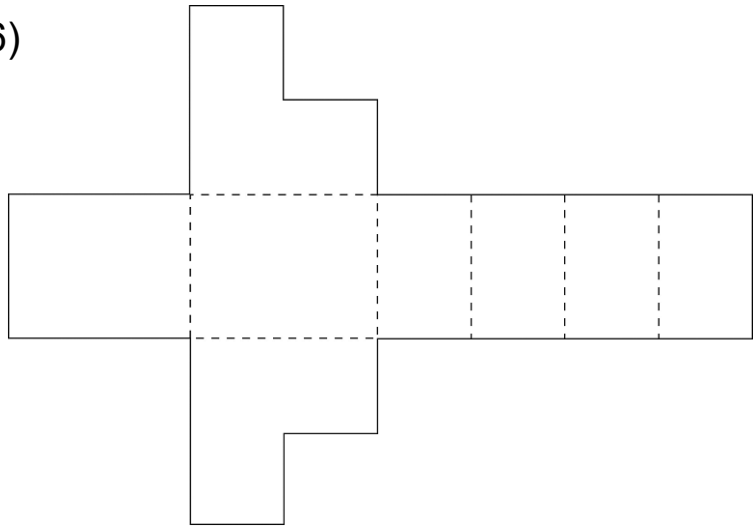


Net D



Net F

#6)

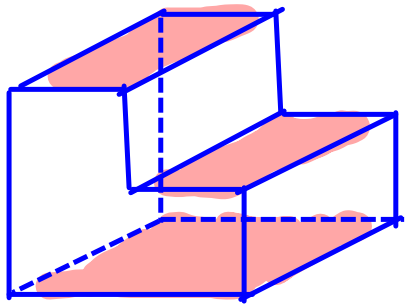


6. The object will look like a step

b) - net

c) Yes, it is a polyhedron. Its faces are polygon

d)

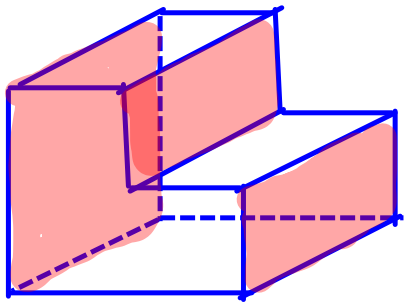


Parallel faces

Tops are ||

Bottoms are parallel

Sides are ||



Perpendicular faces

⇒ Top and front

⇒ Side and Bottom

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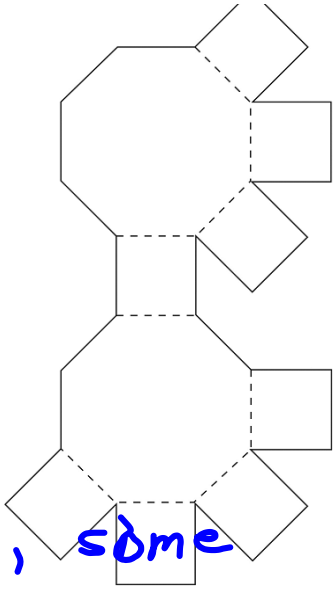
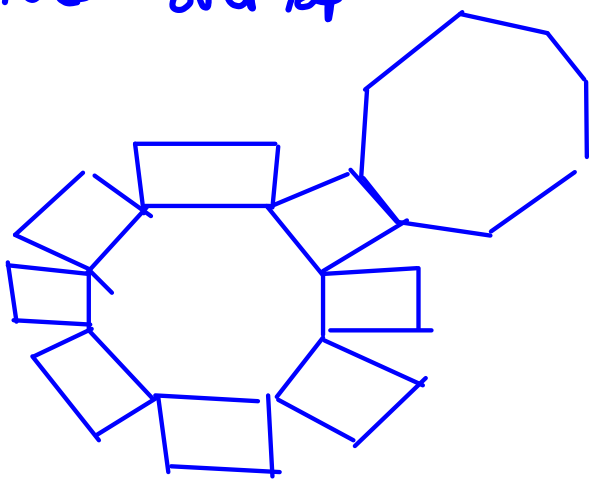
#7)



7. No it is not a net, some of the sides overlap



8. The soccer ball is made of pentagons and hexagon

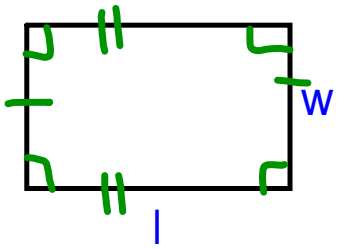
9 a) Is a net - Rectangular Pyramid
b) Yes - Triangular Prism
c) No
d) No

10. A is the net for the decagonal pyramid

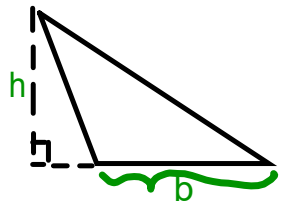
11. The following are nets of cubes
B, C, , E, F, H, J

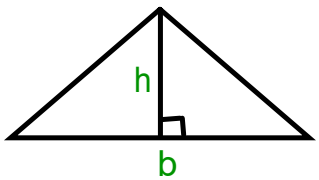
Area of Polygons

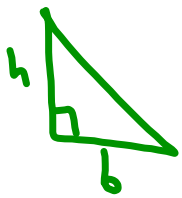
Area of a rectangle A = length x width OR A = l x w



Area of a triangle $A = \frac{\text{base x height}}{2}$ OR $A = \frac{b \times h}{2}$







Find the area of each rectangle.

1.

L = 3mm
W = 18mm

$A_{\square} = L \times W$
$= 3mm \times 18mm$
$= 54mm^2$

2.

L = 3.8cm
W = 1.2cm

$A_{\square} = L \times W$
$= 3.8cm \times 1.2cm$
$= 4.56 cm^2$

Find the area of each triangle.

1.

b = 22 m
h = 7m

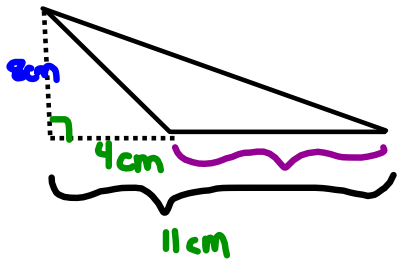
$A_\Delta = \frac{b \times h}{2}$

$= \frac{22\text{m} \times 7\text{m}}{2}$

$= \frac{154\text{m}^2}{2}$

$A_\Delta = 77\text{m}^2$

2.



11cm − 4cm

b = 7cm

h = 8 cm

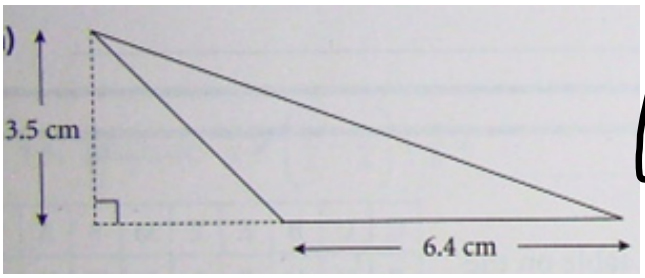
$A_\Delta = \frac{b \times h}{2}$

$A_\Delta = \frac{7\text{cm} \times 8\text{cm}}{2}$

$A_\Delta = \frac{56\text{cm}^2}{2}$

$A_\Delta = 28\text{cm}^2$

3.



b = 6.4 cm
h = 3.5 cm

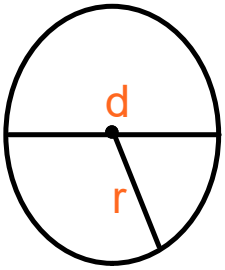
$A_\Delta = \frac{b \times h}{2}$

$= \frac{6.4\text{cm} \times 3.5\text{cm}}{2}$

$= \frac{22.4\text{cm}^2}{2}$

$= 11.2\text{cm}^2$

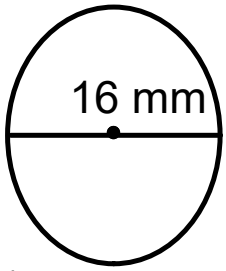
Area of a circle $A = \pi \times \text{radius}^2$ OR $A = \pi r^2$



$r = \frac{d}{2}$

Find the area of each circle.

1.



$d = 16\text{ mm}$

$r = 8\text{ mm}$ ← $\div 2$

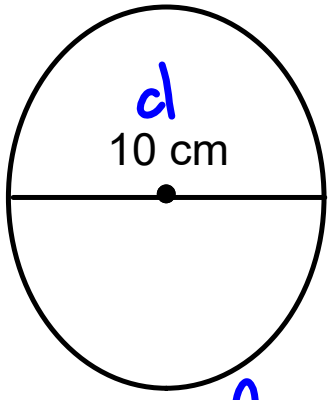
$A = \pi r^2$

$= 3.14 \times (8\text{mm})^2$

$= 3.14 \times 64\text{mm}^2$

$= 200.96\text{ mm}^2$

2.



$r = 5\text{cm}$

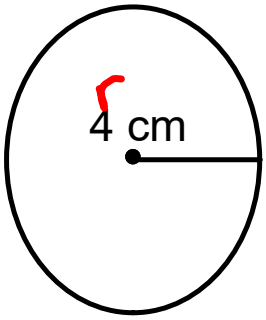
$A_o = \pi r^2$

$= 3.14 (5\text{cm})^2$ (5×5)

$= 3.14 \times 25\text{cm}^2$

$= 78.5\text{cm}^2$

3.



$A_o = \pi r^2$

$= 3.14 (4\text{cm})^2$

$= 3.14 \times 16\text{cm}^2$

$= 50.24\text{cm}^2$

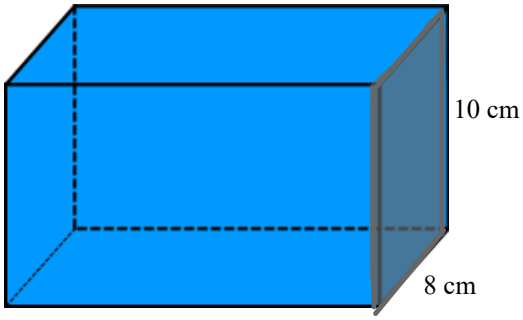
Class/Homework

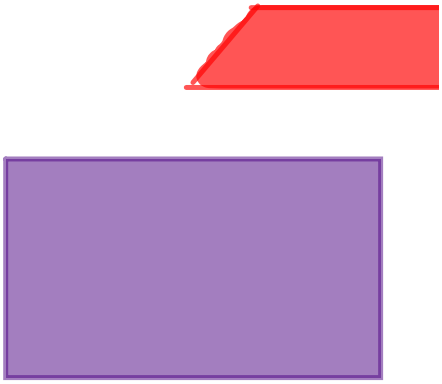
Worksheet of REVIEW

Surface Area

What is Surface Area?

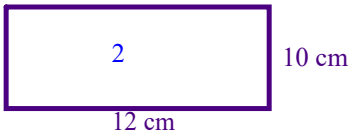
Surface area is the total area of all of the faces of the object.
To find surface area:
1. Draw all of the faces (or you can draw a net).
2. Find the area of each face.
3. Then add up the areas of all of the faces.





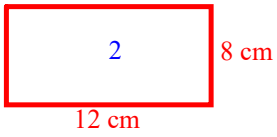
Faces

Front and Back - Rectangles



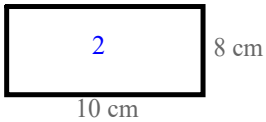
A = *l* x w
= 12 x 10
= 120 cm^2

Top and Bottom - Rectangles

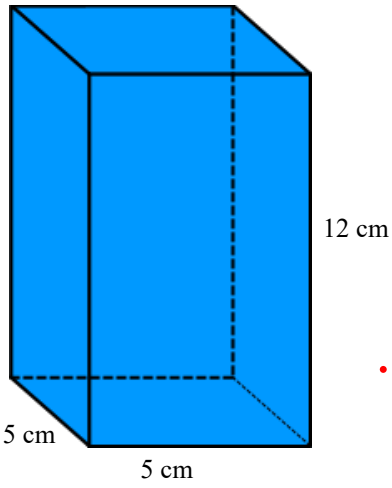


A = *l* x w
= 12 x 8
= 96 cm^2

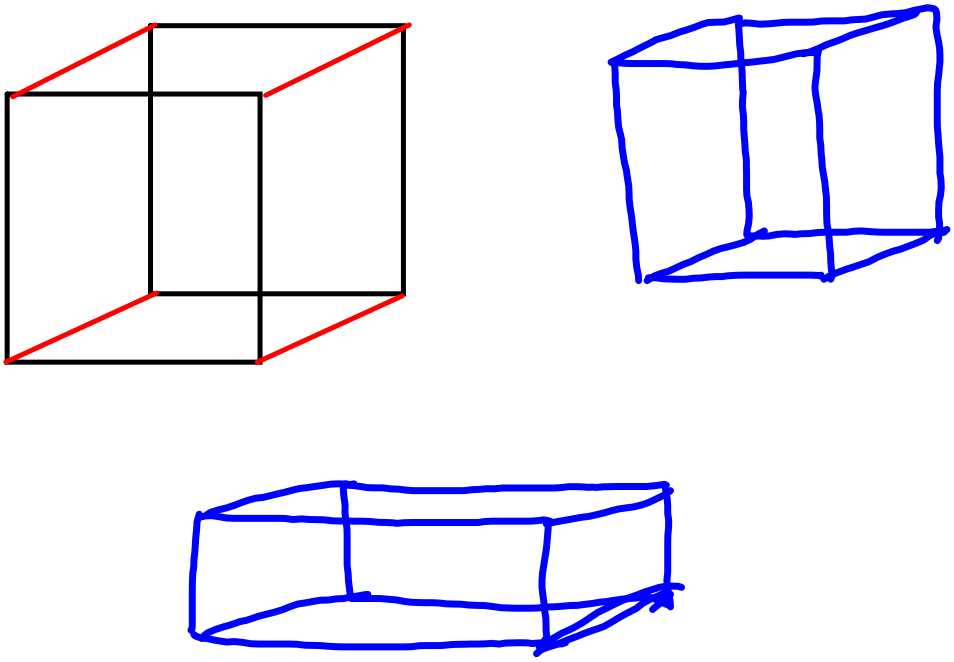
2 sides - Rectangles



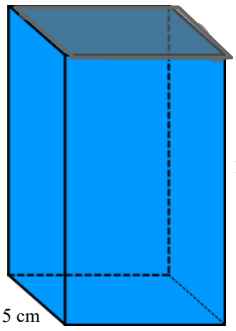
A = *l* x w
= 10 x 8
= 80 cm^2

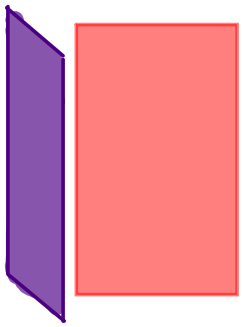


Surface Area = 2 x 120 + 2 x 96 + 2 x 80
= 240 + 192 + 160
= 592 cm^2



What is the surface area of this rectangular prism?

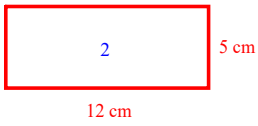




Top and Bottom

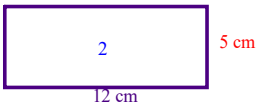
Area = l x w
= 5 x 5
= 25 cm^2

Front and Back



Area = l x w
= 12 x 5
= 60 cm^2

Sides



Area = l x w
= 12 x 5
= 60 cm^2

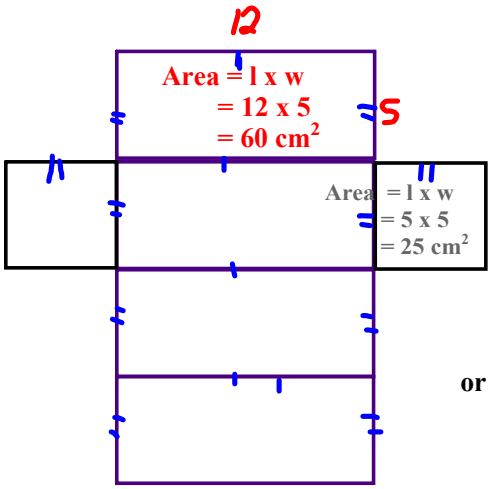
5 cm

What do you notice about the front and back and 2 sides?

Then you could have said you have 4 rectangles that are the same and multuiply by 4.

Surface Area = 2 x 25 + 2 x 60 + 2 x 60
= 50 + 120 + 120
= 290 cm^2

or SA = 2 x 25 + 4 x 60
= 50 + 240
= 290 cm^2



or SA = 2 x 25 + 4 x 60
= 50 + 240
= 290 cm^2

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Homework
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Warm-Up

Warm-Up

1. A ship travels for 14 km toward the south. It then changes direction and travels for 9 km toward the east. How far does the ship have to travel to return directly to its starting point?

2. Use mental math.

a) $3/4 \div 1/4$ b) $\sqrt{36} + \sqrt{25}$

Attachments

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