EMG Education

Your **Bridge** to International **Success**

3rd REVIEW PACK
GRADE 8 MATHS

Triangles and Quadrilaterals
Volume and Surface Area
2D and 3D Representation

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TRIANGLES AND QUADRILATERALS

●LEARNING OBJECTIVES:

1. Derive, know and use the formula for the area of triangles and quadrilaterals (including: rectangles, parallelograms, trapeziums).

2. Calculate the area of compound shapes made from rectangles and triangles.

3. Identify and use properties of quadrilaterals.

4. Calculate the interior and exterior angles of regular and irregular polygons.

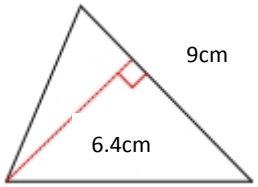
5. Solve geometric problems using side and angle properties of quadrilaterals and other polygons.

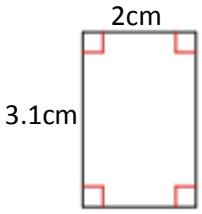
●RESOURCES

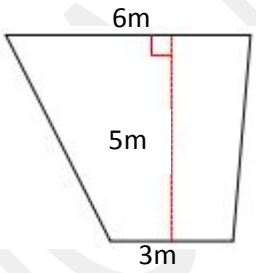
1. https://www.youtube.com/watch?v=YdlNeEyyl1o
2. https://www.youtube.com/watch?v=EZ6dOlRQDBo
3. https://www.mathsisfun.com/triangle.html
4. https://www.mathsisfun.com/quadrilaterals.html
5. Exploring Maths Book pages 75 - 83

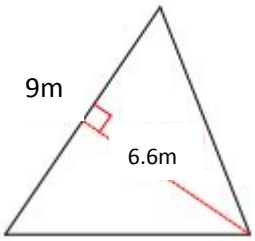
WORKSHEET ON TRIANGLES AND QUADRILATERALS

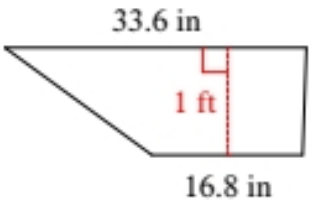
A. Find the area of the following.

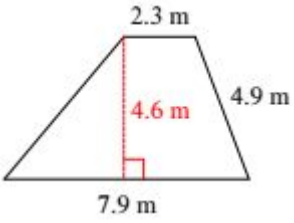








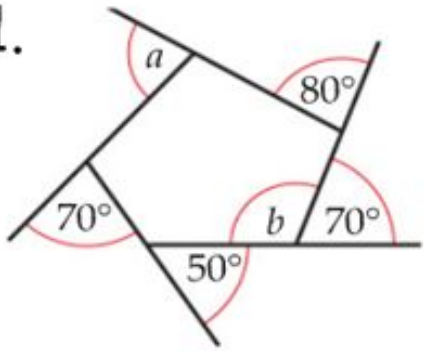




** 1ft = 12in*

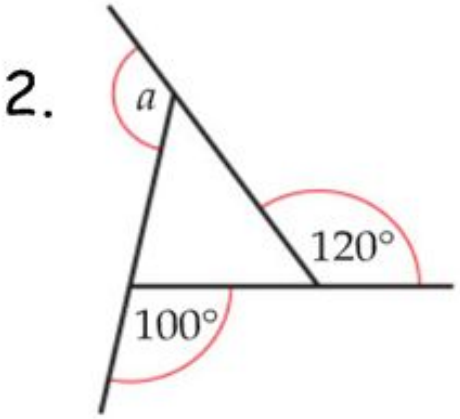
B. Find the unknown angle/s.

1.



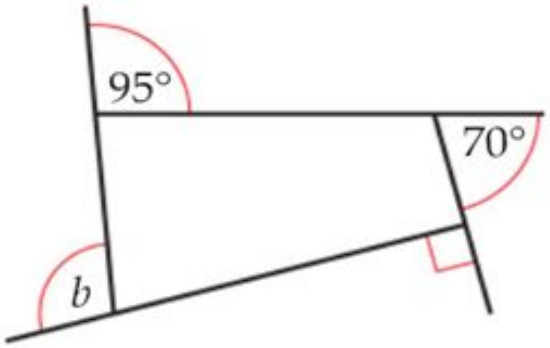
a = ... b = ...

2.



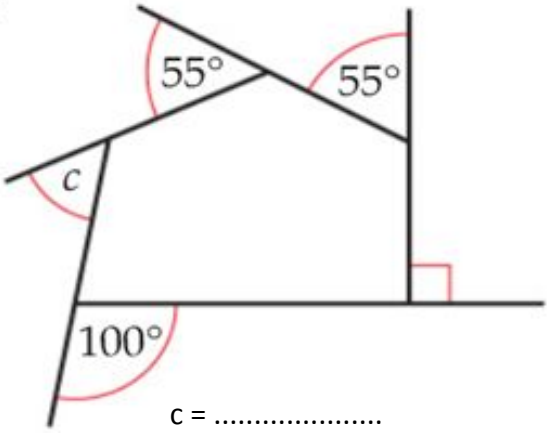
a = ...

3.



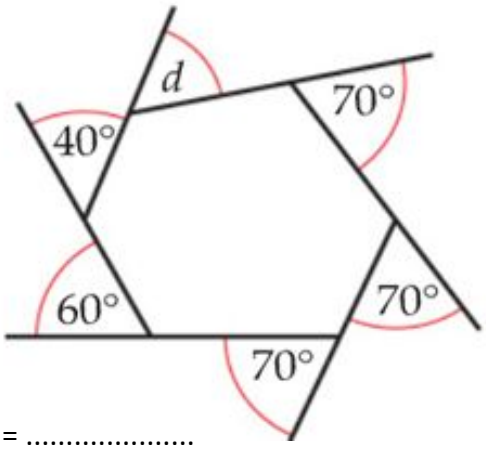
b = ...

4.



c = ...

5.



d = ...

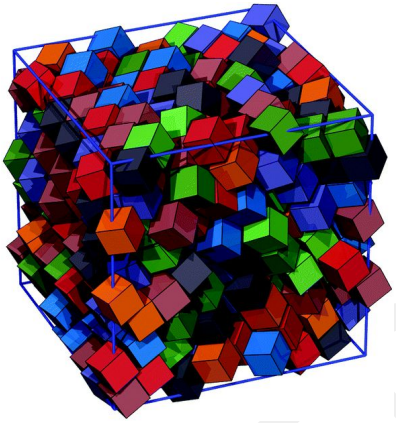
VOLUME AND SURFACE AREA

●LEARNING OBJECTIVES:

1. Calculate the volume of cubes, cuboids and 3D solids made from cuboids.

2. Calculate the surface area of cubes and cuboids.

3. Solve problems involving area, surface area and volume.



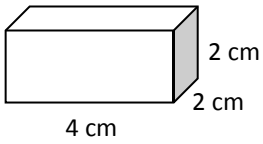
●RESOURCES

1. https://www.youtube.com/watch?v=PhLc6B5WXtc
2. https://www.mathsisfun.com/cuboid.html
3.https://www.mathsisfun.com/geometry/hexahedron.html
4. Exploring Maths Book pages 223 - 233

WORKSHEET ON VOLUME AND SURFACE AREA

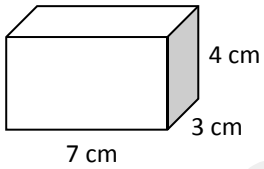
1. Calculate the volume and the surface area of each of the following cuboids:

a.



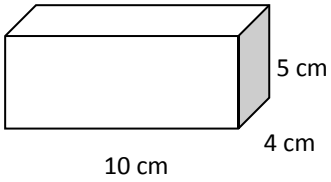
VOLUME: .....
SURFACE AREA: .....

b.



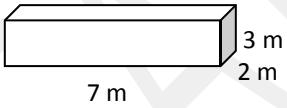
VOLUME: .....
SURFACE AREA: .....

c.



VOLUME: .....
SURFACE AREA: .....

d.



VOLUME: .....
SURFACE AREA: .....

2. Miss Rose is holding a box with a base of 30cm, a breadth of 45cm and a height of 120cm. What is the volume of the box?

3. A cuboid has a base length of 30m, a height of 16m and a breadth of 10m. What is the volume of the cuboid?

4. A cube shaped box has a side length of 3mm. What is the volume of the box?

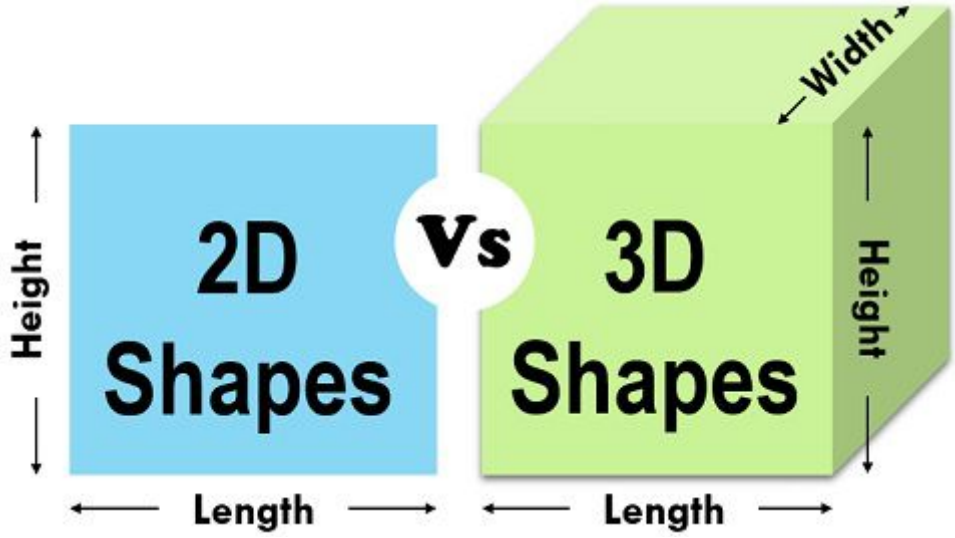
5. A rubix cube has a side length of 10cm. What is its volume?

2D AND 3D REPRESENTATION

●LEARNING OBJECTIVES:

1. Draw and interpret 2D representations of 3D solids.

2. Sketch nets of 3D solids.

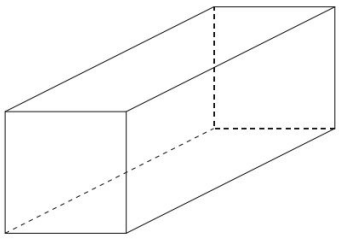


●RESOURCES

1. https://www.youtube.com/watch?v=8Dp9Gdj2_Fs
2. https://www.mathsisfun.com/definitions/net.html
3. https://www.mathsisfun.com/geometry/common-3d-shapes.html

WORKSHEET ON 2D AND 3D REPRESENTATION

1. Here is a diagram of a cuboid.



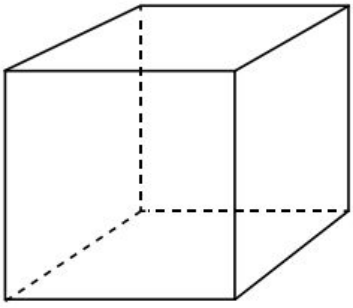
Write down the number of:

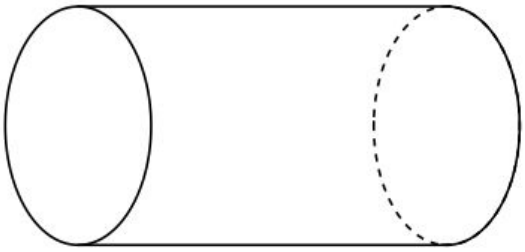
a) Faces .....

b) Edges .....

c) Vertices .....

2. Write down the mathematical name of each of these 3D shapes.





(i) ..... (ii) .....

3. Below are some pictures of solid shapes and their nets.
   An arrow has been drawn from one solid to its net.

   Draw an arrow from each of the other solid shapes to its net.