

GCSE Maths 2019/20

ASSIGNMENT WK19

Preparatory Sheet

Required preparation for the session on.....

2D/3D SHAPE ENLARGEMENT (Perimeter/Area/Volume)

Aims of this session: Review your abilities in each of these areas, Green (feel confident...G), Amber (need to work more on...A), Red (Feel weaker at this...R)

1. Calculate the perimeter of a 2D shape
2. Find the area of a 2D shape
3. Use a formula to find the volume of a 3D object
4. Enlarge a 2D shape (area) by a scale factor
5. Enlarge a 3D object (volume) by a scale factor

G	A	R
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MOSTLY GREEN

MOSTLY AMBER

MOSTLY RED

<https://padlet.com/mathsmen230774/51p06aeilql1>

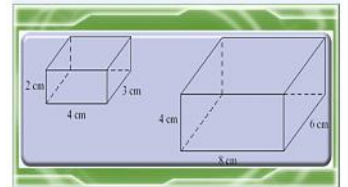
Watch the video/s, read and practice

using the online materials. Read your GCSE maths AQA book

Write a comment about what you learned from the videos / materials below



S18 perimeter, area, volume enlargeme



1.

Calculate the Perimeter of a 2D shape

Q... look at the image of a house floor plan. Each cm represents a real life measurement of 1 metre. Can you find the real perimeter of the floor?

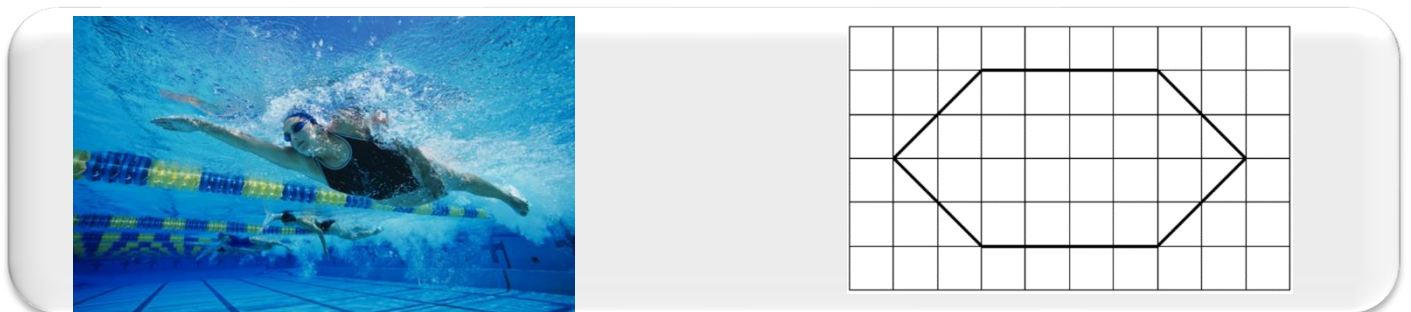


HINT... don't break the shape up as you would in finding area measurements... instead go AROUND the outside of the shape ADDING up all the lengths and using the lengths opposite to find any missing ones.

2.

Find the area of a 2D shape

Q... A swimming pool is shown below looking top down, with each square representing 4 square metres. Find the total area of the pool.

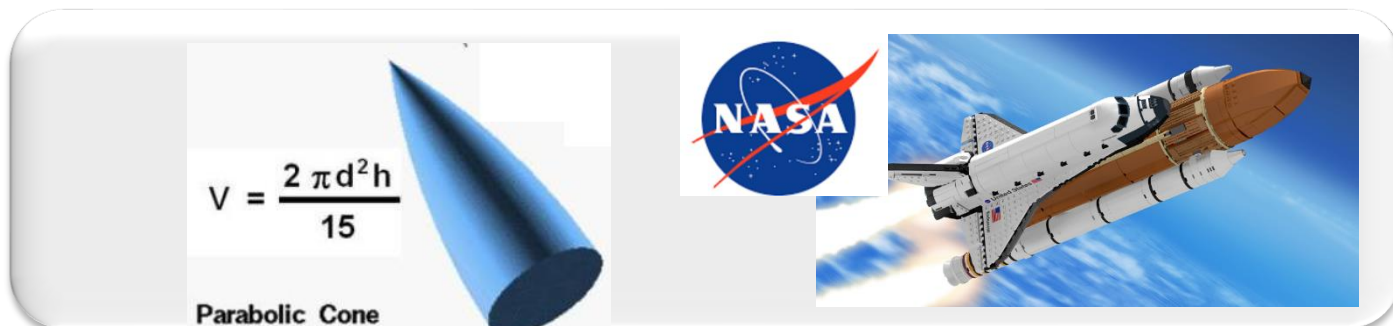


HINT... count up each of the whole squares. Each is worth 4 square metres. For the triangle parts on the ends, try to rearrange those shapes and add them with the other triangle to form a rectangle that you can again count whole squares.

3.

Use a formula to find the volume of a 3D object

Q... Use the formula for a 'Parabolic Cone' below to find the total cubic volume of the shape with diameter 'd' of 5m and height 'h' of 60m. Use Pi as 3.14.

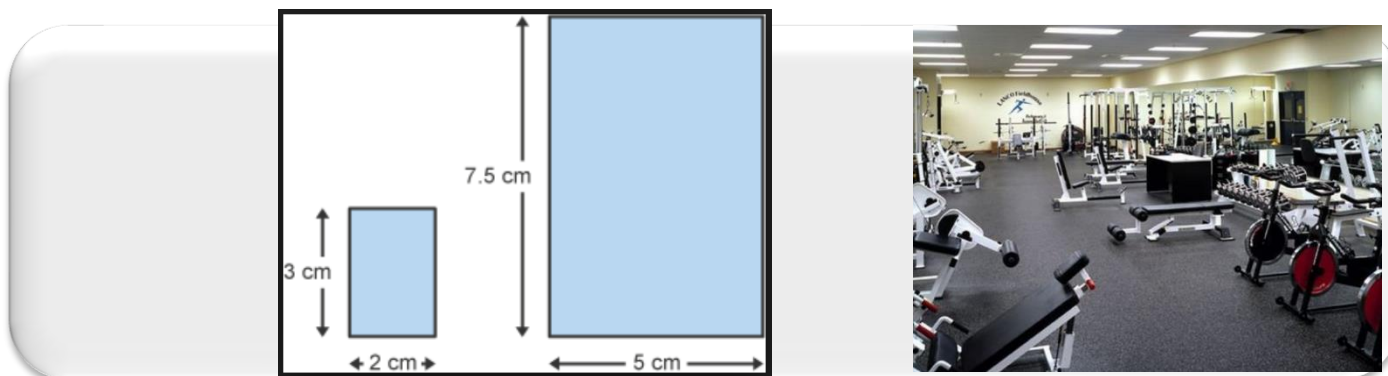


Hint... Replace each letter with the given values, pi=3.14 d=5 h=60 Complete the sum by multiplying each value along the top of the fractions (being careful to multiply d x d as this is 'squared') and then dividing your answer by 15.

4.

Enlarge a 2D shape (area) by a scale factor

Q... The new plans for an area in a gym show an increase from 2cm to 5cm in width. Find the enlargement scale factor to see how many times larger the new gym area is to the original.



HINT... be careful here.. the question asks you to find the 'AREA' enlargement factor...NOT the enlargement of the size of the lengths. You need to calculate the area of the small and then large rectangles and compare them with division to find the scale factor.

5.

Enlarge a 3D object (volume) by a scale factor

Q... To cope with increased number of patients a new hospital wing is being build (image B) which is 2.4 times larger in volume than its original (image A). The new volume of hospital is 3000cubic metres. Find the volume of the previous hospital wing. Can you suggest some lengths/widths/heights for both wing sizes?



END OF PREPATORY ASSIGNMENT

What to do now....

1. **Ensure you have marked in each box if you feel confident in each topic or not (this will inform you and your tutor which activities you should do in the session)**
2. **Keep this yellow assignment for reference and revision purposes**
3. **Add this to your folder of work in order.. YELLOW...GREEN...ORANGE (and any BLUE you achieve)!**

