Numeracy Information Factsheets

SUBJECT: **Perimeter and Area - Introduction**

KEY-WORDS: Area, distance, units, formulae, shapes, composite shapes

LINK-WORDS: Area of circles, Composite shapes, Surface Area

NOTES

The distance around any shape is called its **Perimeter.** Units are mm,cm,m,km…

The AREA of a shape is the amount of space it occupies in two dimensions (this means its FLAT!). Units for area are mm^2,cm^2,M^2,Km^2 ….

The perimeter of a straight-sided shape (polygon) is found by adding together ALL the side lengths.

We can ESTIMATE the area of a random shape by counting the number of squared units within it.

For regular shapes, there are formulae that we can use to calculate their area.

RECTANGLE – Area =length x width (or A = l x w)

TRIANGLE – Area = $\frac{\text{base x height}}{2}$

Parallelogram – Area = base x height

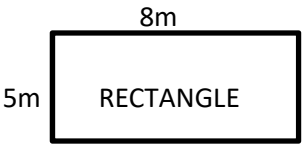
Trapezium –

Area = $\frac{1}{2}$ (sum of parallel sides) x height

Or Area = $\frac{(a + b)}{2}$ x h where a and b are the parallel sides

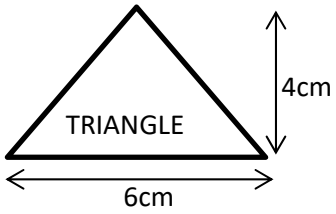
COMPOSITE shapes are shapes made up by combining these simpler shapes. To find the area of composite shapes, find the areas of each individual part and add them up!

EXAMPLE

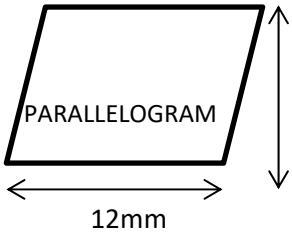


Perimeter = 8+5+8+5
= 26m.

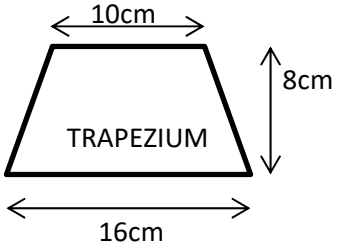
Area = 8 x 5
= $40m^2$



Area = $\frac{6 \times 4}{2}$
= $12cm^2$



Area = 12 x 10
= $120mm^2$



Area = $\frac{1}{2}$(10+16) x 8
= 13 x 8
= $104cm^2$

DOs

Do understand that perimeter is a measure of DISTANCE, so the units will be mm,cm,M,Km…

Do understand that Area is in two dimensions, so the units will be "squared" - be mm^2,cm^2,M^2,Km^2

Do remember to add all four sides when calculating the perimeter of a rectangle.

Do remember to halve the answer for a triangle – as any triangle is always half a rectangle.

DON'Ts

Don't mix up perimeter and area – you'll lose the marks on both parts of the question!

Don't forget to include units in your answers – measurements don't make any sense without units. (Think about it – "The perimeter of the field was 300". – 300 what?! 300m).

RELEVANT SUBJECTS

Anywhere where shapes are involved eg Technology, Sports, Geography, Design….

EXAMPLES and LINKS

Link to naming of Polygons:
http://www.mathsisfun.com/geometry/polygons.html