CIRCLES

Having investigated the relationships between the radius, diameter, circumference and area of a circle, I can apply my knowledge to solve related problems.
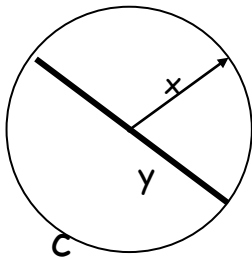
Pupils should be able to:

- Know meaning of *radius, diameter, circumference*
- Know that d = 2r
- Find by careful measurement that C is a little more than 3 times d
- Know meaning of *radius, diameter, circumference*
- Know that $C = \pi d$ and that π = 3.14 approximately
- Know how to use π button on calculator
- Use the circumference formula appropriately in problems
- Know that $A = \pi r^2$
- Use the area formula appropriately in problems,
- including calculating areas of discs
- Calculate diameter given circumference
- Calculate radius given area
- Calculate perimeter and area of compound shapes with semicircular sections

PUPILS SHOULD COMPLETE THE FOLLOWING EXERCISE AND ASSESS THEIR PROGRESS BY TICKING ONE OF THE OPTIONS FOR EACH TOPIC IN THE TABLE BELOW

	DEVELOPING	CONSOLIDATING	SECURE
Meaning of radius, diameter, circumference **Question 1**			
d=2r **Question 2**			
Calculate area and circumference **Questions 3, 4**			
Calculate radius & diameter given area **Question 5**			
Calculate perimeter and area of compound shapes **Questions 6, 7, 8**			

mymaths lessons: library/number/area & perimeter/circumference of a circle
                        library/number/area & perimeter/area of circles

1. Using the diagram, complete this table:

line	Name	Meaning / description
x		
y		
c		

2. Complete this table.

Showing your
working for the
calculations:

radius	diameter	Circumference, C
6cm		
	50m	
25cm		
3.5m		
	200cm	

3.   A circle has a diameter of 36cm
   (a) Calculate the circumference of this circle   (b) Calculate its area
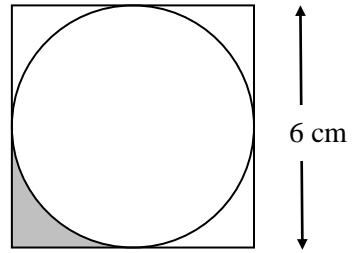
4.   A circle has a radius of 28mm.
       (a)   Calculate its area   (b)   Calculate its circumference

5. A circle has area = 200cm², what is
      a) its radius
      b) its diameter?

A = 200cm²

6.

70cm

50cm
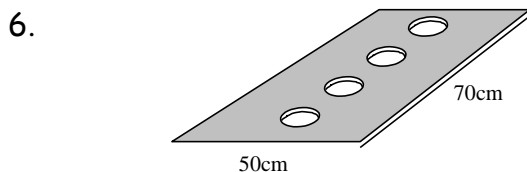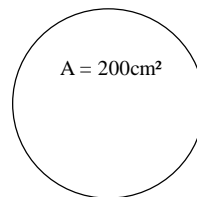
The diagram shows a rectangular
plate with four holes of radius 6cm
drilled through it.
Calculate the shaded area.

7. Calculate the shaded area in the diagram opposite:

6 cm

8. Calculate the area of this shape.

25cm

16cm