Circles – Area of Disc

Lesson 33

1. Calculate the area of a disc with a radius of 8cm. $\pi 8^2 = 201.06 cm^2$

part 2

2. Calculate the area of a disc with a circumference of 62.8cm.

$C = 2\pi r$ part 1

$\frac{C}{2\pi} = r$

$\frac{62.8}{2\pi} = r = 9.99$

$A = \pi (9.99)^2$

$= 313.84 cm^2$

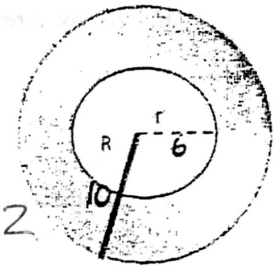
3. Calculate the area of the shaded circular ring of the radius of the big circle (R) is 10cm and the radius of the small circle (r) is 6cm.

Big area − small area

$\pi r^2 - \pi r^2$

$\pi (10)^2 - \pi (6)^2$

$314.16 cm^2 - 113.1 cm^2 = 201.06 cm^2$



4. Complete the following table:

$\frac{C}{2\pi}$ $\sqrt{\frac{A}{\pi}}$ $C = 2\pi r$ πr^2

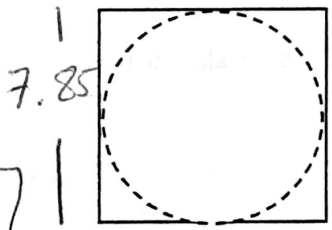
Radius r (cm)	Circumference (cm)	Area of disc (cm²)
25	157.08	1963.5
7.99	50.24	201.06
12.99	81.66	530.66
30.99	194.73	3017.54
4.5	28.26	63.61

5. A disc is inscribed in a square. The square has a perimeter of 31.4cm. What is the area of the circle?

$31.4 \div 4 = 7.85$

$d = 7.85 \quad r = 3.925$

$A = \pi (3.925)^2 = 48.4 cm^2$



6. A disc has an area of 39.44cm². What is the circumference of this disc?

$A = 39.44$

$r = \sqrt{\frac{A}{\pi}} = 3.54 cm$

$C = 2\pi r$

$= 2\pi (3.54)$

$C = 22.26 cm$