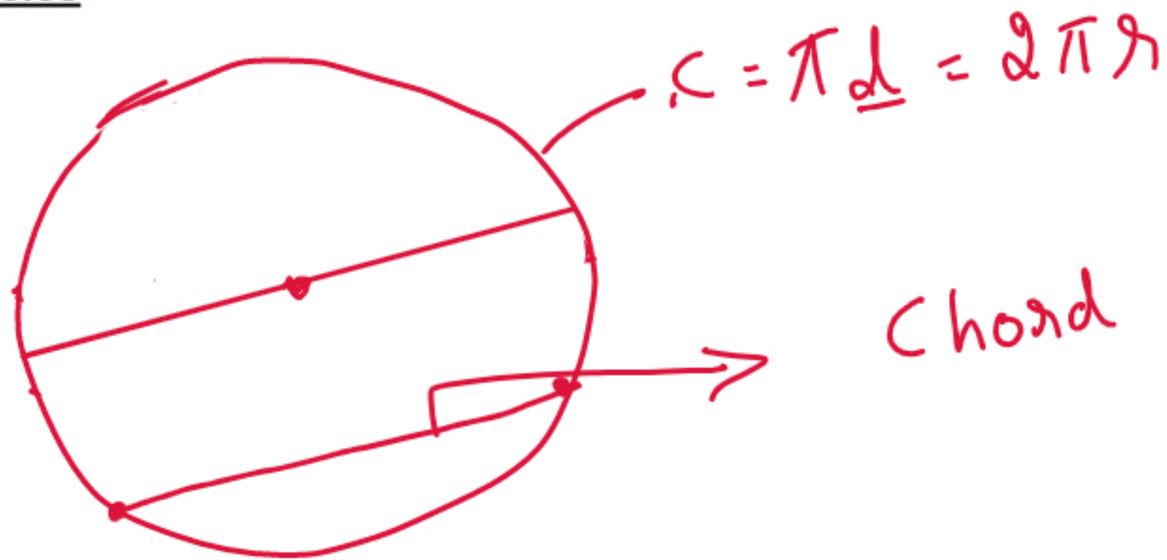
Circles



$\pi = 3.14$

$d = 2r$

$\frac{d}{2} = r$

1. Find the circumference of a circle with a radius of 8 cm

$C = 2\pi(8)$

$= 16\pi$ cm

2. The radius of a circle is 5. What is its circumference?

$C = 2\pi(5)$

$C = 10\pi$

3. Find the area of a circle with a radius of 7 cm

$A = 49\pi$

4. Find the area of a circle with a diameter of 16 in

$A =$

$A = \frac{1}{2}bh$

$= \frac{1}{2}(2\pi r^2)$

$= \pi r^2$

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	Radius	Diameter	Area	Circumference
1).	3 in	6in	9π in^2	6π in
2.	10 cm	20 cm	100π cm^2	20π cm
3.	2 yd	4 yd	~~12.56 yd^2~~ 4π yd^2	4π yd
4.	10cm	20 cm	100π cm^2	62.8 cm

4) $\frac{62.8}{3.14} \times \pi$

20π

1) $A = \pi r^2$

$= \pi 3^2$

$= 9\pi$

2) $A = \pi 10^2$

$= 100\pi$

3) $A = \pi r^2$

$4\pi = \pi r^2$

$4 = r^2$

$2 = r$

1. John cut a paper into a circular shape measuring an area of 0.64π square mm. How much could be its radius?

$A = 0.64\pi \text{ mm}^2$

$r = ?$

$A = \pi r^2$

$0.64\pi = \pi r^2$

$0.64 = r^2$

$0.8 \text{ mm} = r$

$9 = 3^2 = 3 \times 3$

$64 = \boxed{8}^2$

2. If the circumference of a circular path is 14π m, what is its area?

$r = 7 \text{ m}$

$A = \pi r^2$

$A = 49\pi \text{ m}^2$

4. The ratio of the radii of two wheels is 4: 5. Find the ratio of their circumference.

$$\frac{r_1}{r_2} = \frac{4x}{5x} = \frac{8x\pi}{10x\pi}$$

5. From a circular sheet of a radius 5 cm, a circle of radius 3 cm is removed. Find the area of the remaining sheet.

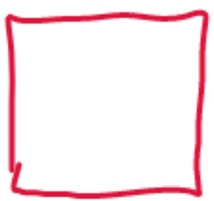
$A_O = 25\pi$

$A_I = 9\pi$

$A_O - A_I = (25-9)\pi$

$A_{Remain} = 16\pi \text{ cm}^2$

6. A square metallic frame has a perimeter 208 cm. It is bent in the shape of a circle. Find the area of the circle.



$P = 208\ cm = C$

$C = \pi d$

$\frac{208}{\pi} = d$

$\frac{104}{\pi} = r$

$A = \pi r^2$

$= \pi \cdot 104 \cdot \frac{104}{\pi}$

$A = 10{,}816\ cm^2$

$= 3444.5\ cm^2$

7. A thin wire is in the form of an equilateral triangle of side 11 cm. Find the area of a circle whose circumference is equal to the length of the wire.

$C = \pi d$

$\frac{33}{\pi} = d$

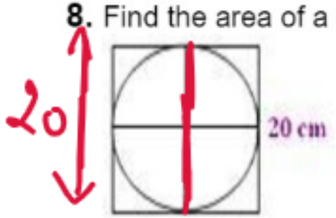
$P = 33 = C$

$\frac{16.5}{\pi} = r$

$A = \pi r^2$

$A = \frac{272.25}{\pi} = 86.7\ cm^2$

8. Find the area of a circle inscribed in a square of side 20 cm.



$A = 100\pi$