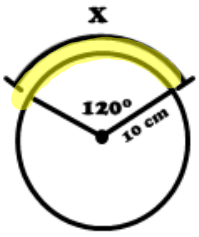
FINDING ARC LENGTH

STEP 1 – Calculate the *CIRCUMFERENCE* using: $\boxed{C = 2\Pi r}$ or $C = \pi d$

STEP 2 – Find *ARC LENGTH* using: $\boxed{\dfrac{\text{Length of Arc}}{\text{Circumference}} = \dfrac{\text{Angle}}{360^\circ}}$

EXAMPLE PROBLEM:



Given:
angle = 120°
r = 10cm

STEP 1: $C = 2\Pi r$
$= 2\Pi(10\text{ cm})$
$= \Pi(20\text{ cm})$
$= 62.8\text{ cm}$

STEP 2: $\dfrac{\text{Length of Arc}}{\text{Circumference}} = \dfrac{\text{Angle}}{360^\circ}$

$\dfrac{\text{Length of Arc}}{62.8\text{ cm}} = \dfrac{120^\circ}{360^\circ}$

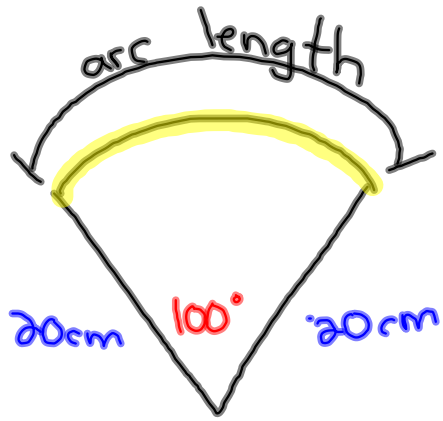
$\dfrac{(\text{Length of Arc})(360^\circ)}{360^\circ} = \dfrac{(62.8\text{ cm})(120^\circ)}{360^\circ}$

Length of Arc = 20.9 cm

*****EXTRA STEP**

Perimeter = 20.9 cm + 10 cm + 10 cm
= 40.9 cm

④



Given:
angle = 100°
radius = 20cm