

Answer on Question #47910 – Math – Geometry

A SECTOR OF 120 DEGREE CUT OUT FROM A CIRCLE HAS AN AREA OF $\frac{66}{7}$ SQ CM. THE RADIUS OF THE CIRCLE IS ????

Solution:

$\alpha = 120^\circ$ – central angle of the sector;

$A = \frac{66}{7} \text{ cm}^2$ – area of the sector;

R – radius of the circle;

Formula for the area of the sector:

$$A = \frac{\alpha}{360^\circ} \pi R^2$$
$$R = \sqrt{A \frac{360^\circ}{\alpha \pi R^2}} = \sqrt{\frac{66}{7} \text{ cm}^2 \frac{360^\circ}{120^\circ \cdot 3.14}} = 3 \text{ cm}$$

Answer: radius of the circle is equal to 3 cm.