## FINDING SECTOR AREA

STEP 1-Calculate the $A R E A$ OF THE CIRCLE using: $\quad \mathrm{A}=\boldsymbol{\Pi r}^{2}$

## STEP 2 - Find SECTOR AREA using:

$\underline{\text { Sector Area }}=\underline{\text { Angle }}$ Area of Circle $360^{\circ}$

## EXAMPLE PROBLEM:



STEP 1: $\quad \mathbf{A}=\boldsymbol{\Pi r}^{2}$

$$
\begin{aligned}
& =\Pi(7.5 \mathrm{~cm})^{2} \\
& =\Pi\left(56.25 \mathrm{~cm}^{2}\right) \\
& =176.71 \mathrm{~cm}^{2}
\end{aligned}
$$

STEP 2: $\underline{\text { Sector Area }}=\underline{\text { Angle }}$
Area of Circle $360^{\circ}$ $\frac{\text { Sector Area }}{176.71 \mathrm{~cm}^{2}} \frac{120^{\circ}}{360^{\circ}}$
$\begin{aligned} \frac{(\text { Sector Area })\left(360^{\circ}\right)}{360^{\circ}} & =\frac{\left(176.7 \mathrm{~cm}^{2}\right)\left(120^{\circ}\right)}{360^{\circ}} \\ \text { Sector Area } & =58.9 \mathrm{~cm}^{2}\end{aligned}$

## FINDING THE RADIUS

STEP 1-Fill in the SECTOR AREA formula and solve for AREA OF CIRCLE:

## $\underline{\text { SectorArea }}=\underline{\text { Angle }}$

 Area of Circle $360^{\circ}$STEP 2 - Fill in the AREA OF CIRCLE formula and solve for " $r$ " to find the radius: $\mathbf{A}=\boldsymbol{\Pi} \mathbf{r}^{\mathbf{2}}$

## EXAMPLE PROBLEM:



Sector Area $=325 \mathbf{~ c m}^{2}$

STEP 1: $\frac{\text { Sector Area }}{\text { Area of Circle }}=\frac{\text { Angle }}{360^{\circ}}$
Area of Circle $360^{\circ}$
$\frac{325 \mathrm{~cm}^{2}}{\text { rea of Circle }}=\frac{160^{\circ}}{360^{\circ}}$
$\left(325 \mathrm{~cm}^{2}\right)\left(360^{\circ}\right)=($ Area of Circle $)\left(160^{\circ}\right)$
$160^{\circ} \quad 160^{\circ}$
$731.25 \mathrm{~cm}^{2}=$ Area of Circle

STEP 2:

$$
\begin{aligned}
\mathbf{A} & =\boldsymbol{\Pi \mathbf { r } ^ { 2 }} \\
\frac{731.25 \mathrm{~cm}^{2}}{\Pi} & =\frac{\Pi \mathrm{r}^{2}}{\Pi} \\
\frac{232.76 \mathrm{~cm}^{2}}{} & =\mathrm{r}^{2} \\
\sqrt{232.76 \mathrm{~cm}^{2}} & =\mathrm{r} \\
15.26 \mathrm{~cm} & =\mathrm{r}
\end{aligned}
$$

The radius is 15.26 cm .

