1. Find the area of each circle. Give the answer in the form stated for each problem. B is the center of all circles.

a) Leave answer in terms of π.
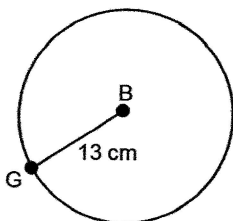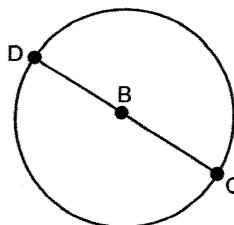
$r = 13\,cm$

$A = \pi r^2$
$= \pi (13)^2$
$A = 169\pi \; cm^2$

b) Give answer to the nearest hundredth.
$\overline{CD}$ is a diameter and $CD = 18$ in

$Dia = 18\,in$
$r = 18 \div 2 = 9\,in$
$A = \pi r^2 = \pi (9)^2$
$A = 81\pi$
$= 254.47 \; in^2$

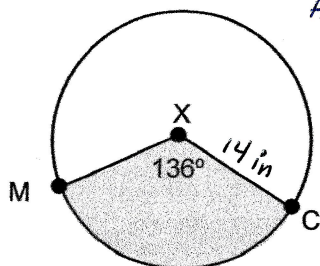2. The area of a circle is 325 ft². Find the radius to the nearest hundredth.

$A = \pi r^2$

$\dfrac{325}{\pi} = \dfrac{\pi r^2}{\pi} \Rightarrow \sqrt{r^2} = \sqrt{\dfrac{325}{\pi}} \longrightarrow r = 10.17 \; ft$

3. Find the area of the shaded sector to the nearest hundredth. The center of each circle is X. $\overline{AC}$ is a diameter.
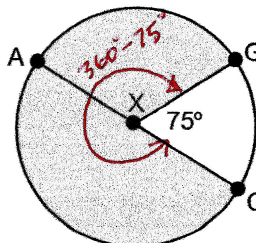
a)

Area of circle:
$A = \pi (14)^2$
$= 196\pi$

$\dfrac{136°}{360°} = \dfrac{x}{196\pi}$

$x = 232.62 \; in^2$

Area = $232.62 \; in^2$

b)

$360° - 75°$
$75°$

$AC = 6\,ft \; = DIA$
$r = \dfrac{6}{2} = 3\,ft$
Area of circle
$= \pi (3)^2 = 9\pi$
$m\,\overarc{GAC} = 360° - 75° = 285°$

$\dfrac{285°}{360°} = \dfrac{x}{9\pi}$

$x = 22.38 \; ft^2$

Area = $22.38 \; ft^2$

4. The area of the shaded sector in circle P is 600cm². Find the measure of the central angle to the nearest hundredth of a degree.

$m\angle FPT = 67.14°$

$32\,cm$
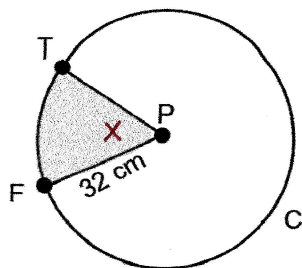
Area of circle $= \cancel{2\pi r} \; \pi r^2$
$= \pi (32)^2$
$= 1024\pi$

$\dfrac{x}{360°} = \dfrac{600}{1024\pi}$

$x = 67.14°$

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