SAT Circles

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$$(x-6)^2+(y+5)^2=16$$

In the xy-plane, the graph of the equation above is a circle. Point P is on the circle and has coordinates $(10,-5)$. If $\overline{PQ}$ is a diameter of the circle, what are the coordinates of point Q ?

A) $(2,-5)$

B) $(6,-1)$

C) $(6,-5)$

D) $(6,-9)$

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A circle in the xy-plane has equation $(x+3)^2+(y-1)^2=25$. Which of the following points does NOT lie in the interior of the circle?

A) $(-7,3)$

B) $(-3,1)$

C) $(0,0)$

D) $(3,2)$

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Points A and B lie on a circle with radius 1, and arc $\widehat{AB}$ has length $\frac{\pi}{3}$. What fraction of the circumference of the circle is the length of arc $\widehat{AB}$?

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In a circle with center O, central angle AOB has a measure of $\frac{5\pi}{4}$ radians. The area of the sector formed by central angle AOB is what fraction of the area of the circle?

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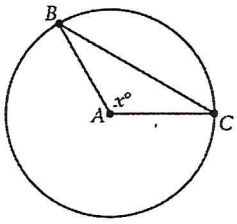

Note: Figure not drawn to scale.

In the circle above, point A is the center and the length of arc $\widehat{BC}$ is $\frac{2}{5}$ of the circumference of the circle. What is the value of x ?

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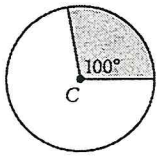

Point C is the center of the circle above. What fraction of the area of the circle is the area of the shaded region?

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In the xy-plane, the graph of $2x^2-6x+2y^2+2y=45$ is a circle. What is the radius of the circle?

A) 5

B) 6.5

C) $\sqrt{40}$

D) $\sqrt{50}$