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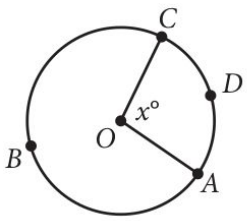
Geometry

Geometry plays a key role in SAT Math, and while geometry questions are not as common as algebra questions, the test-taker should still be able to solve them effectively and with ease.

Let's take a look at a sample problem below.

Problem:



The circle above has center O, the length of arc $\overset{\frown}{ADC}$ is 5π, and $x = 100$. What is the length of arc $\overset{\frown}{ABC}$?

A) 9π

B) 13π

C) 18π

D) $\frac{13}{2}\pi$

First, we should remember the formula for the arc length, which is $\frac{x}{360} \times \pi r^2$.
Next, we need to figure out the radius of the circle. Given that we have $x = 100$ and the arc length of $ADC = 5\pi$, we can substitute and rearrange the equation to find *r.*

$$\frac{100}{360} \times \pi r^2 = 5\pi$$
$$r^2 = 5 \times \frac{360}{100}$$
$$r^2 = 18$$

Now, we can find the angle x of ABC, which is $360 - 100 = 260.$
Substitute that back into our equation, and we get

$$\frac{260}{360} \times \pi \times 18 = 13\pi$$

Our answer is $13\pi,$ or Option **B**.