

Orientation Exercises 13

1. Following are the distances, in feet, of five points from the center of a circle.

Point R—2.75 Point U—3.00
 Point S—3.01 Point V—2.50
 Point T—2.01

If the diameter of the circle is 6 feet, which point lies outside the circle?

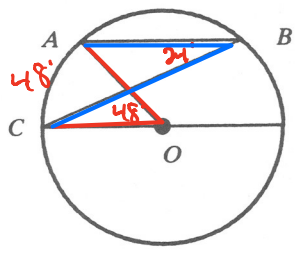
- A. Point R D. Point U
 B. Point S E. Point V
 C. Point T

2. When the circumference of a circle is increased from 10π inches to 15π inches, by how many inches is the radius increased?

$C = 2\pi r$
 $10\pi = 2\pi r$
 $5 = r$

- A. 20 D. 5 $C = 2\pi r$
 B. 10 E. $2\frac{1}{2}$ $15\pi = 2\pi r$
 C. $7\frac{1}{2}$ $7.5 = r$

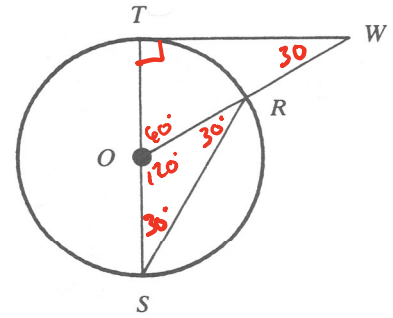
3. In the figure, $m\angle AOC = 48^\circ$ in the circle centered at O . Find $m\angle ABC$.



- A. 96 D. 24
 B. 72 E. None of the above
 C. 48

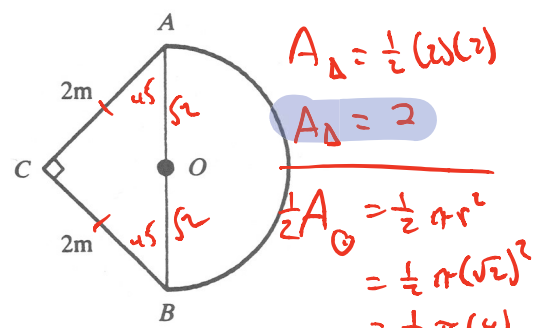
$m\angle ABC = \frac{1}{2} m\angle AC$

4. In the figure, O is the center of the circle. If $m\angle RST = 30^\circ$ and \overline{TW} is tangent to the circle at point T , what is the measure of $\angle TWO$?



- A. 15° D. 60°
 B. 30° E. 75°
 C. 45°

5. In the figure, find the area, in square meters, of the entire region formed by $\triangle ABC$ and the semicircle having AB as its diameter.



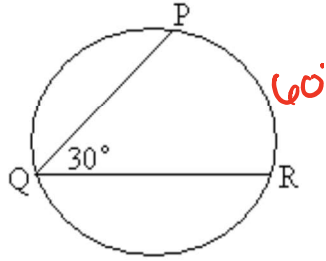
- A. $2 + \pi$ D. $4 + 4\pi$
 B. $2 + 2\pi$ E. $2 + 4\pi$
 C. $1 + \pi$

6. Find the area of a sector of a circle if the sector has a central angle of 90° and a radius of 2 units.

- A. 1 D. 4π
 B. π E. 8
 C. 2π

$A_{\odot} = \pi r^2 = \pi (2)^2 = 4\pi$
 $A_{\triangle} = \frac{90}{360} (4\pi) = \frac{1}{4} (4\pi) = \pi$

7. In the figure below, $\angle PQR$ is an inscribed angle. Find the measure of \widehat{PR} .



- A. 30°
 B. 15°
 C. 60°
 D. 90°
 E. 120°
8. The diameter of a circle with an area of 225π is:

- A. 15
 B. 20
 C. 25
 D. 30
 E. 35

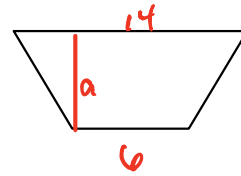
$$A = \pi r^2$$

$$225\pi = \pi r^2$$

$$225 = r^2$$

$$\pm 15 = r$$

9. The trapezoid below has bases of 14 and 6 and an area of 120. Find its altitude.



- A. 20
 B. 12
 C. 33
 D. 24
 E. 6

$$A = h \cdot \frac{1}{2} (b_1 + b_2)$$

$$120 = a \cdot \frac{1}{2} (20)$$

$$120 = a \cdot 10$$

$$12 = a$$

10. The circumference of a circle whose diameter is 25 is:

- A. 12.5π
 B. 625π
 C. 75
 D. 25π
 E. 50π

$$C = d\pi$$