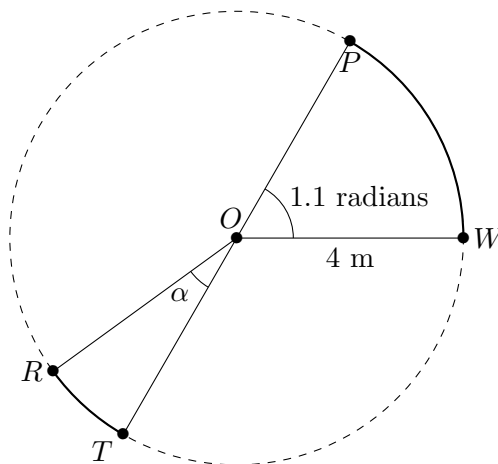


5. [10 points] Use the diagram below to answer the following questions. The diagram contains a circle of radius 4 with center point  $O$  at coordinates  $(0, 0)$ . All angles in the figure are given in radians, and all lengths are in meters.



In all parts of this problem, give your answers in **exact** form and include units. It is okay to leave your answers in terms of the sin, cos, and tan functions. You don't need to show work on this problem, but you could receive credit for correct work shown.

- a. [3 points]  
Convert 1.1 radians into **degrees**.

1.1 radians is equivalent to  $\frac{1.1(180)}{\pi}^\circ$

- b. [3 points]  
Find the coordinates of the point  $P$ .

The coordinates of  $P$  are  $(4 \cos(1.1), 4 \sin(1.1))$

- c. [2 points]  
Find the length of the bold arc between  $W$  and  $P$ .

The length of the arc is  $(1.1)(4)$  meters

- d. [2 points]  
The length of the bold arc between  $R$  and  $T$  is 1.2 meters. Find the angle  $\alpha$  in radians.

$\alpha = \frac{1.2}{4}$