

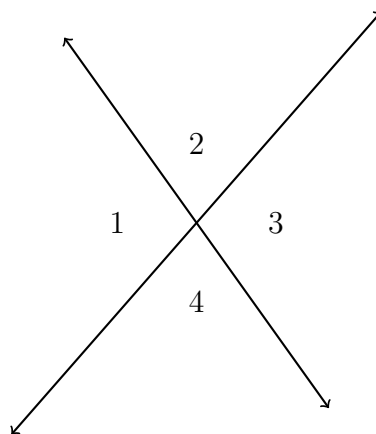
Name:

11.8 Homework: Circle Angles

- Given $A(11, 2)$ and $B(-1, 7)$, find the length of \overline{AB} . Show the substitution into the distance formula.
- Two lines intersect to make four angles: $\angle 1$, $\angle 2$, $\angle 3$, and $\angle 4$, as shown.

(a) How are $\angle 2$ and $\angle 4$ related?

- ☐ Linear pair
- ☐ Vertical angles
- ☐ Complementary angles
- ☐ Supplementary angles
- ☐ Opposite angles



(b) Given $m\angle 1 = 125^\circ$.

i. Find $m\angle 2$

ii. Find $m\angle 3$

- A regular octagon (8 sides) is inscribed in a circle with a radius $r = 12$. Find each value (in terms of π unless otherwise instructed).

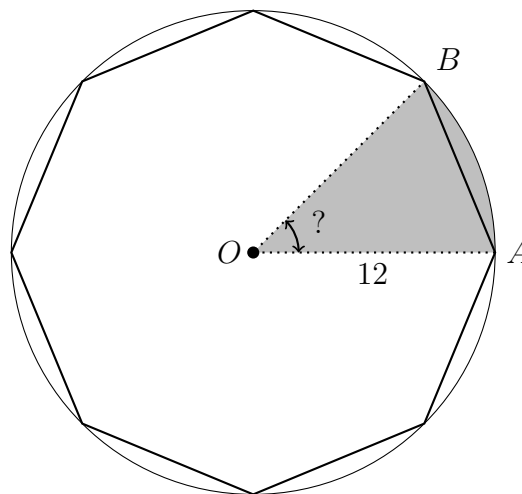
(a) $m\angle AOB$ to the nearest degree.

(e) The sector area (shaded)

(b) The circle circumference. ($C = 2\pi r$)

(c) The length of the arc \widehat{AB}

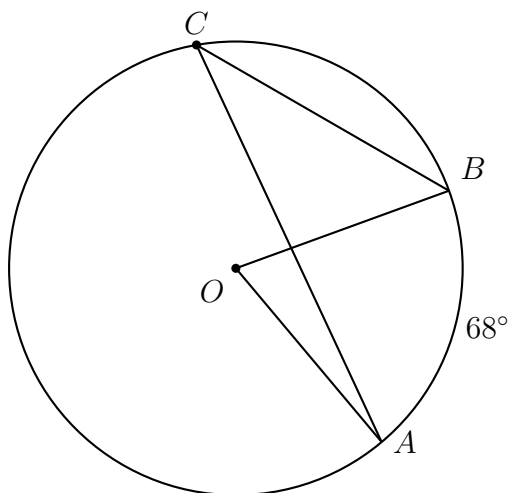
(d) The circle's area. ($A = \pi r^2$)



- Given circle O with $m\widehat{AB} = 68^\circ$.

(a) Write down the $m\angle AOB$.

(b) Find the $m\angle ACB$.



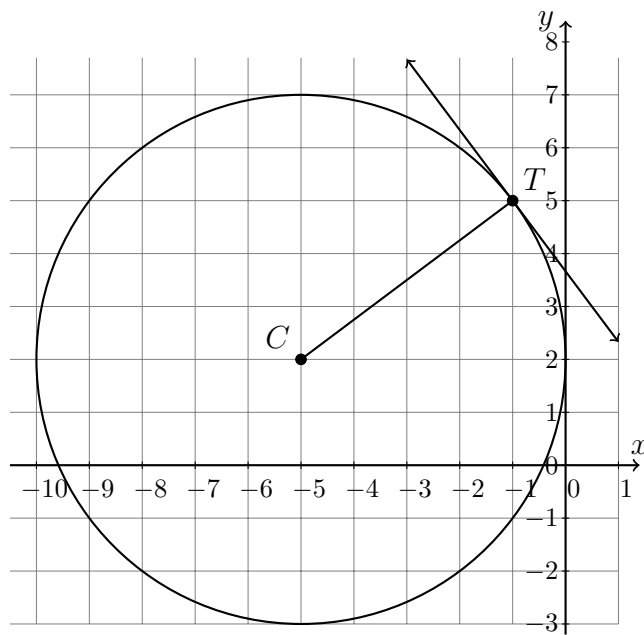
5. A circle on the coordinate plane has center C and radius \overline{CT} . A tangent line through point T is drawn, as shown.

(a) Write down the center of the circle as a coordinate pair.

(b) Write down the equation of the circle.

(c) What is the slope of the radius \overline{CT} ?

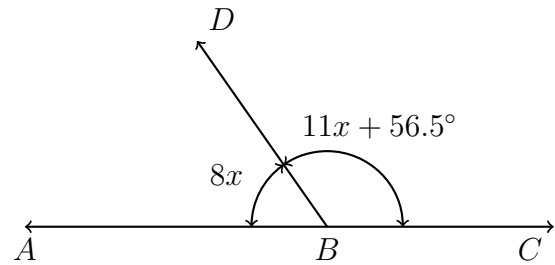
(d) Find the slope of the tangent line.



6. Two supplementary angles have measures $m\angle ABD = 8x$ and $m\angle DBC = 11x + 56.5^\circ$.

Write an equation applying the angle addition theorem, then find x .

Name:



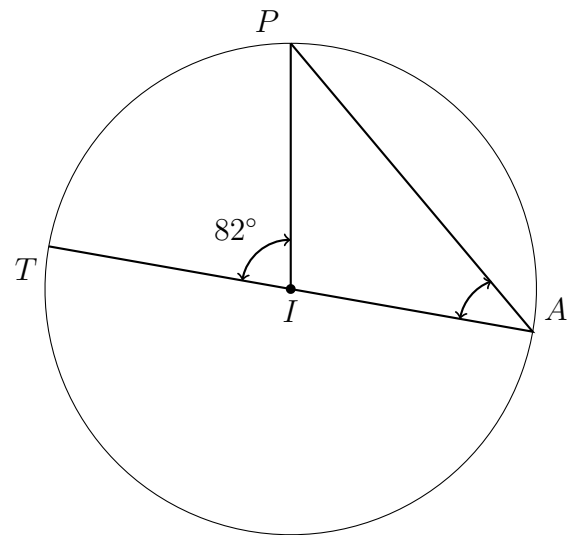
7. Given circle with center I and $m\angle TIP = 82^\circ$. Find the measure of each arc or angle.

(a) $m\widehat{TP}$

(b) $m\angle TAP$

(c) $m\angle API$

(d) $m\angle PIA$



8. Line segment \overline{AB} , $A(1, 8)$, $B(9, 2)$, is the diameter of circle M .

- On the grid, mark and label as a coordinate pair the midpoint of the segment, the circle center M .
- Calculate the length of \overline{AB} and hence, the radius of the circle.
- Write down the equation of the circle.
- Sketch the circle on the grid or draw it with Geogebra or Graspable Math.

