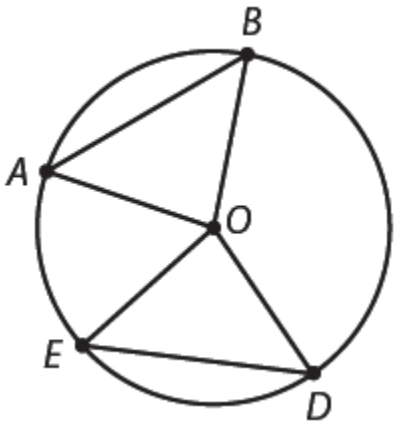
Name:_____Block:_____

PRACTICE QUIZ: UNIT 6 LESSON 1 – CIRCLES

1. In the circle with center O below, $\overline{AB} \cong \overline{ED}$. Prove that $\angle BAO \cong \angle DEO$.



2. Line ℓ is tangent to a circle with center O at point X. In addition, point Y is on ℓ, $\overline{YZ}$ is tangent to the circle at point Z, $XY = 15$ cm, and $YO = 20$ cm.

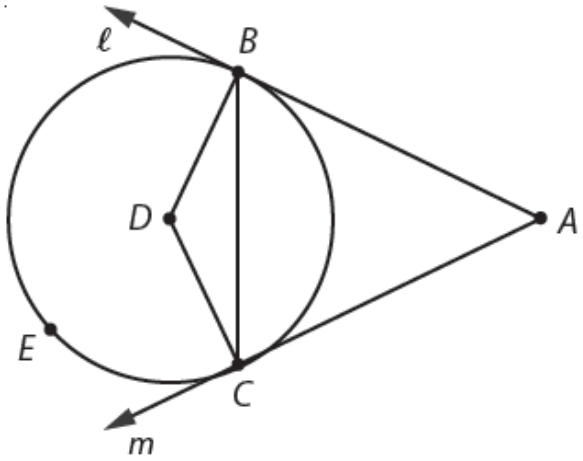
a. Sketch and label a diagram that matches the above description.

b. Determine the radius of the circle. Show your work.

c. Determine the measure of $\angle XYZ$. Show your work.

d. Determine measure of XZ. Explain.

3. In the diagram right, lines ℓ and m are tangent to the circle with center D at points B and C, respectively.



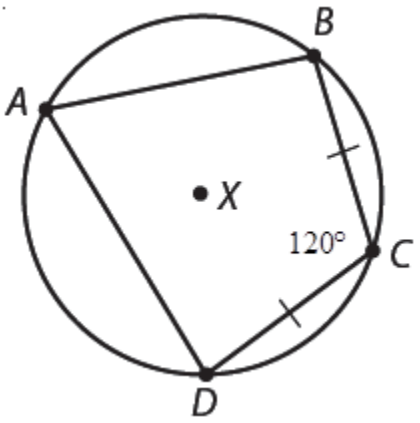
a. Prove that $\angle ABC \cong \angle ACB$.

b. If $BD = 5$ inches and $BC = 9$ inches, find $m\overset{\frown}{BEC}$.

c. Draw an angle in the diagram above so that the measure of your angle is half the measure of $\angle BDC$.

4. Find the measure of each indicated segment or the measure of each indicated angle.

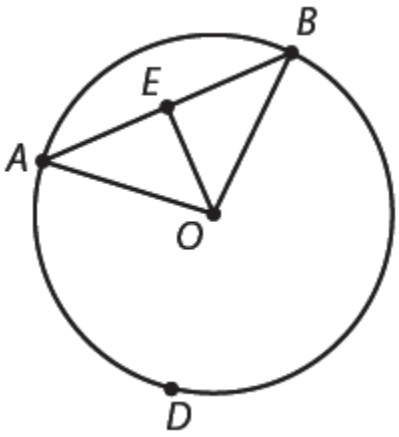
a. Points A, B, C, and D are on a circle with center X.



i. $m\overset{\frown}{BAD}$

ii. $m\overset{\frown}{CD}$

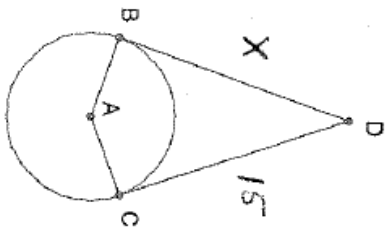
b. Points A, B, and D are on a circle with center O. Additionally, E is the midpoint of $\overline{AB}$ and $m\overset{\frown}{AB} = 100°$.

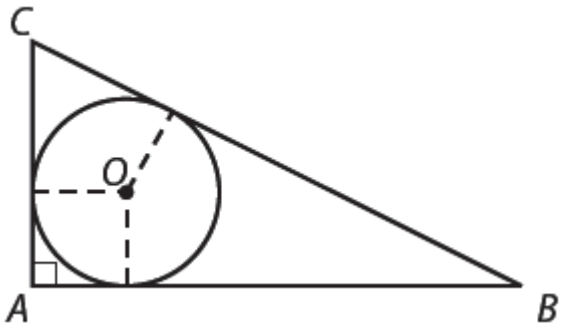


i. $m\overset{\frown}{BDA}$

ii. $m\angle OBE$

5. $\overleftrightarrow{BD}$ is tangent to circle A at B and $\overleftrightarrow{CD}$ is tangent to circle A at C. Find the value of x.





6. Each side of right $\triangle ABC$ is tangent to the circle with center *O*. The radius of the circle is 6 inches and the length *AC* is 18 inches. Find each of the following. Show your work or explain your reasoning.

a. m$\angle C$

b. m$\angle B$

c. $\overline{BC}$