Unit 6 Review Problems
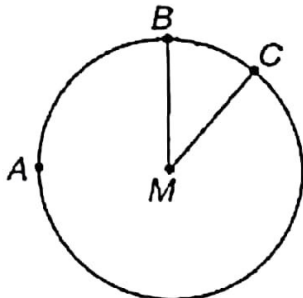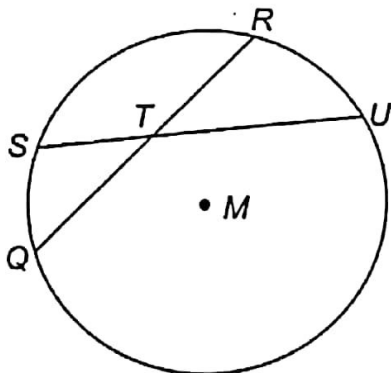
Name: _____

Date: _____

1. Points A, B, and C lie on circle M, as shown below.
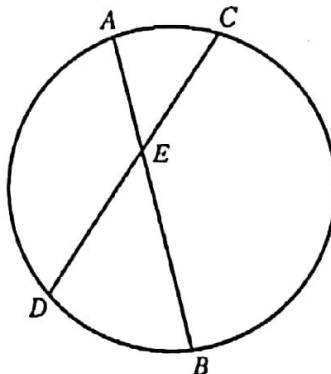

What is the measure of $\angle BMC$ if the measure of arc BAC is $300°$?

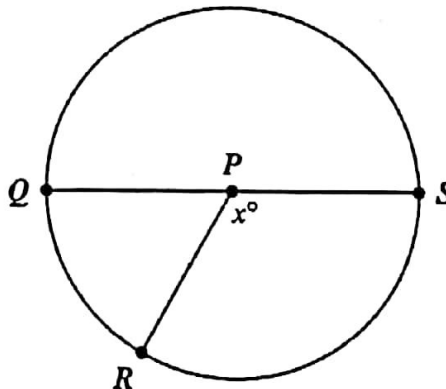2. Chords RQ and SU intersect at point T in circle M.

If $RT = 5$, $TQ = 4$, and $UT = 10$ what is the length of ST?

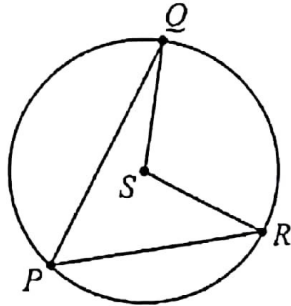3. In the circle below, $\overline{AB}$ and $\overline{CD}$ are chords intersecting at E.

If $AE = 3$, $BE = 8$, and $CE = 4$, what is the length of $\overline{DE}$?

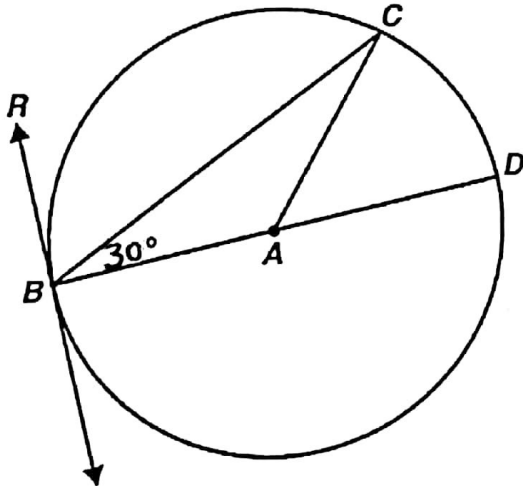4. Points Q, R, and S lie on circle P, and line $\overline{SQ}$ is a diameter of circle P, as shown below.

The measure of $\overset{\frown}{QR}$ is $60°$. What is the value of x?

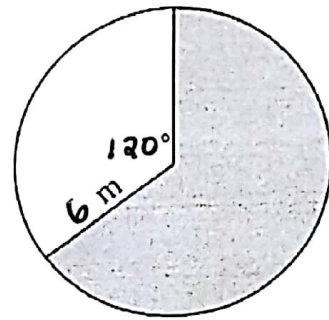5. The diagram below shows points P, Q, and R on circle S. The measure of $\angle QSR$ is $122°$.

What is the measure of $\angle QPR$?

6. $\overleftrightarrow{RB}$ is tangent to a circle, whose center is A, at point B. $\overline{BD}$ is a diameter.
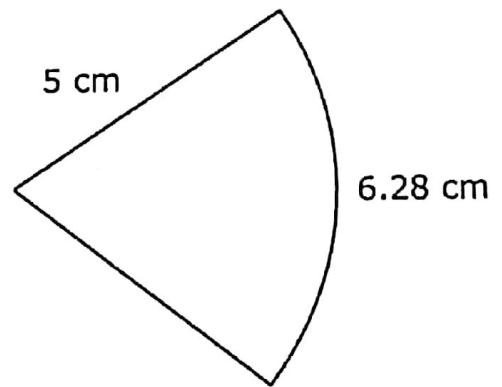

What is $m\angle CBR$?
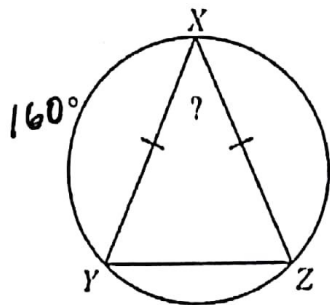
7. What is the area of the shaded sector?

8. A sector of a circle is shown.

What is the area of the sector? (Use 3.14 for π.)

9. The circle shown below has chords $\overline{XY}$, $\overline{XZ}$, and $\overline{YZ}$, with $\overline{XY} \cong \overline{XZ}$. The measure of $\widehat{XY}$ is $160°$, as shown.

X

160° ?
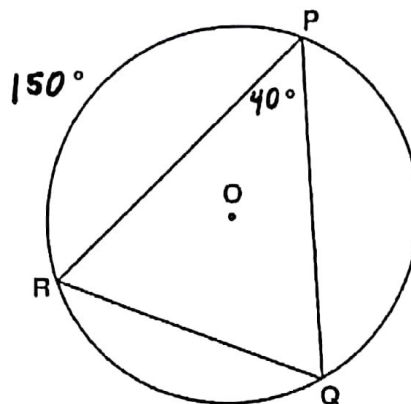
Y Z

What is the measure of $\angle YXZ$?

11. In the circle shown below, the measure of $\widehat{PR} = 150°$ and the measurements of $\angle RPQ = 40°$.

150° P

40°

O

R

Q

What is the measure of $\widehat{PQ}$?

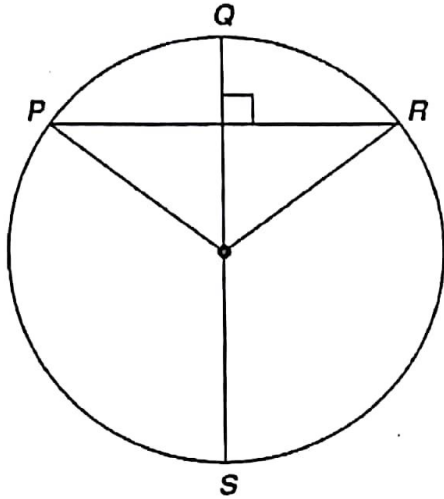10. Quadrilateral $ABCD$ is inscribed in a circle as shown in the diagram below.

B C

85° 80°

A D
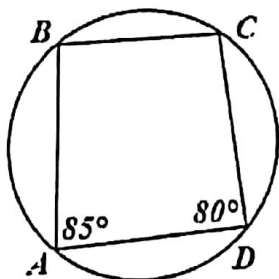
If $m\angle A = 85°$ and $m\angle D = 80°$, what is $m\angle B$?

12. Points N, P, R, and Q lie on circle O.

110° P

Q 40°

O • N

M

70°

R 140°
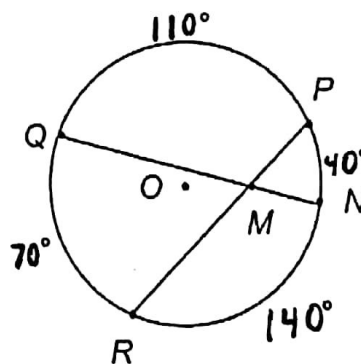
In circle O, what is the $m\angle PMN$?

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13. $\overline{QS}$ is a diameter of the circle below, and $\overline{QS} \perp \overline{PR}$
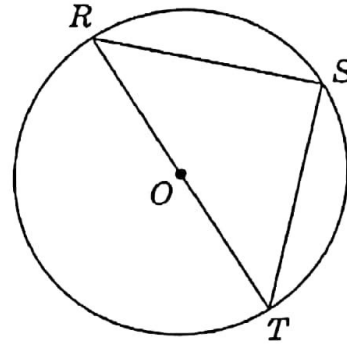

If $m\overparen{PQR} = 100°$, what is $m\overparen{PS}$?

14. In the circle shown below, $\overline{AD}$, $\overline{BE}$, and $\overline{CF}$ are diameters.
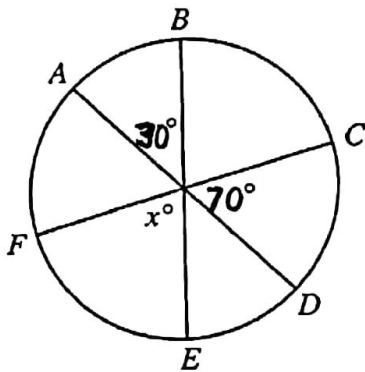
What is the value, in degrees, of x?
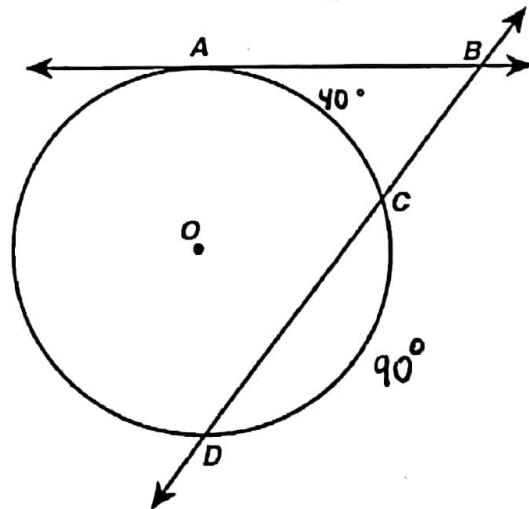
15. In circle O shown below, $\overline{RS} \cong \overline{ST}$.

What kind of triangle is $\triangle RST$?
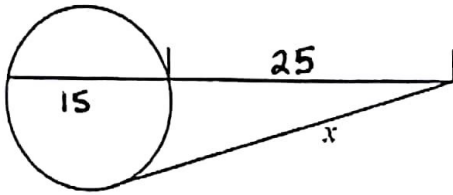
A. right   B. acute

C. obtuse   D. scalene

16. In the figure below, $\overleftrightarrow{AB}$ is tangent to circle O at point A, secant $\overleftrightarrow{BD}$ intersects circle O at points C and D, $m\overparen{AC} = 40°$ and $m\overparen{CD} = 90°$.
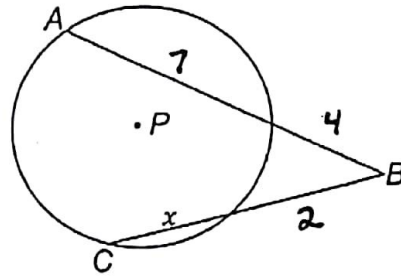

What is $m\angle ABC$?

17. Find the unknown length in the picture below.

25

15

x

18. Line segments AB and CB intersect outside of circle P as shown below.

A

7

•P

4

B

x

2

C

What is the value of x?