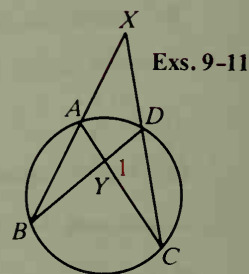
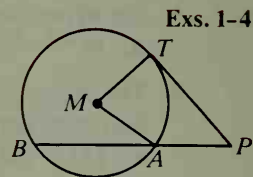


Chapter 9

Indicate the best answer by writing the appropriate letter.

In Exercises 1–3, \overline{PT} is tangent to $\odot M$ at T .

- If $m\angle TMA = 80$, what is the measure of \widehat{TBA} ?
a. 100 b. 80 c. 280 d. 145
- If $m\angle M = 80$, $m\angle P = 50$, what is the measure of $\angle MAP$?
a. 140 b. 150 c. 160 d. 170
- If $PA = 9$ and $AB = 16$, what does PT equal?
a. 12 b. $\frac{25}{2}$ c. 15 d. 20
- Suppose \overline{PS} were drawn tangent to $\odot M$ at point S . If $m\angle SPT = 62$, find $m\widehat{ST}$.
a. 62 b. 236 c. 118 d. 242
- How many common tangents can be drawn to two circles that are externally tangent?
a. one b. two c. three d. four
- Points A , B , and C lie on a circle in the order named. $m\widehat{AB} = 110$ and $m\widehat{BC} = 120$. What is the measure of $\angle BAC$?
a. 130 b. 65 c. 60 d. 55
- Refer to Exercise 6. If point D lies on \widehat{AC} , what is the sum of the measures of $\angle ABC$ and $\angle ADC$?
a. 180 b. 170 c. 160 d. 130
- R and S are points on a circle. \overline{RS} could be which of these?
a. radius b. diameter c. secant d. tangent
- If $m\widehat{BC} = 120$ and $m\widehat{AD} = 50$, what is the measure of $\angle X$?
a. 25 b. 35 c. 60 d. 70
- If $m\widehat{BC} = 120$ and $m\widehat{AD} = 50$, what is the measure of $\angle 1$?
a. 60 b. 85 c. 90 d. 95
- If $AY = j$, $YC = k$, and $YD = 7$, what does BY equal?
a. $\frac{jk}{7}$ b. $\frac{7j}{k}$ c. $\frac{7k}{j}$ d. $\frac{k}{7j}$



In Exercises 12–14, \overleftrightarrow{XA} is tangent to $\odot O$ at X .

- Which of these equals $m\angle AXZ$?
a. $m\widehat{XYZ}$ b. $m\angle OXM$ c. $\frac{1}{2}m\widehat{XY}$ d. $\frac{1}{2}m\widehat{XZ}$
- If the radius of $\odot O$ is 13 and $XZ = 24$, what is the distance from O to chord \overline{XZ} ?
a. 5 b. 8 c. 11 d. $\sqrt{407}$
- If $OM = 8$ and $MY = 9$, what does XZ equal?
a. $6\sqrt{2}$ b. $2\sqrt{17}$ c. $\sqrt{145}$ d. 30

