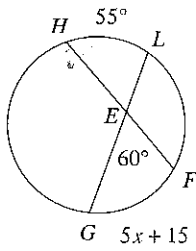
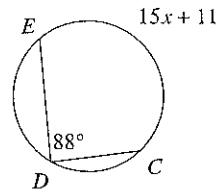


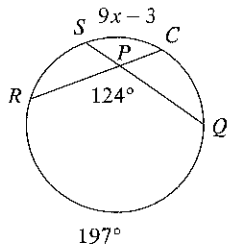
1)



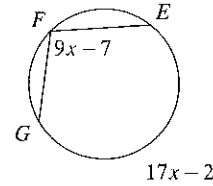
2)



3)

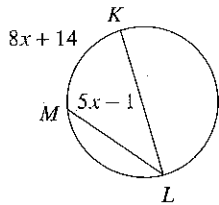


4)

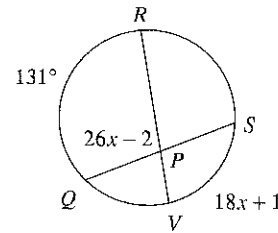


Find the measure of the arc or angle indicated. Assume that lines which appear tangent are tangent.

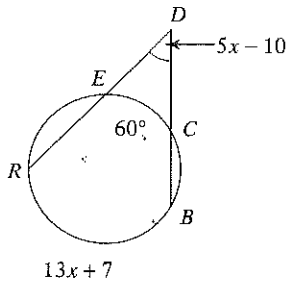
5) Find $m\widehat{KLM}$



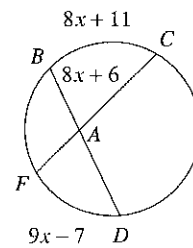
6) Find $m\angle QPR$



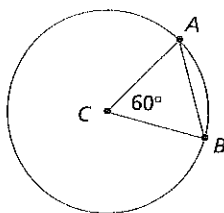
7) Find $m\widehat{RB}$



8) Find $m\widehat{BC}$

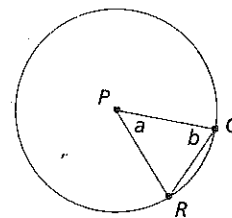


9) College Entrance Exam Sample \overline{CA} and \overline{CB} are radii of $\odot C$. Which of the following statements is true?



- a. $AB = CA$
- b. $AB > CA$
- c. $AB < CA$
- d. Not enough information given

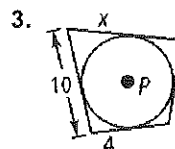
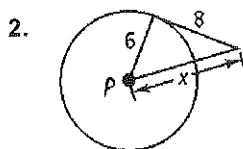
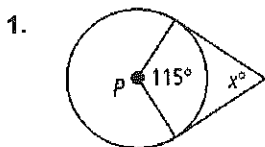
10) College Entrance Exam Sample \overline{PQ} and \overline{PR} are radii of $\odot P$. If $0^\circ < a < 60^\circ$, what are the possible values of b ?



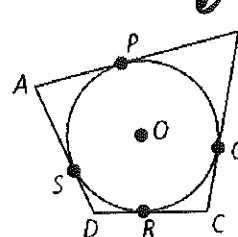
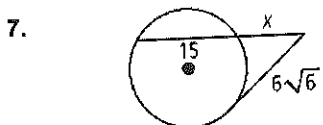
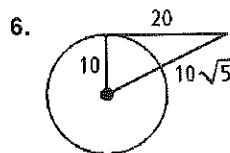
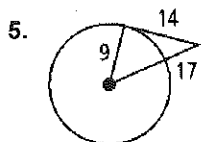
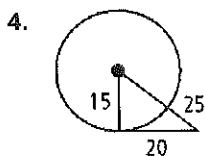
- a. $40^\circ < b < 90^\circ$
- b. $50^\circ < b < 80^\circ$
- c. $60^\circ < b < 90^\circ$
- d. $b > 60^\circ$

Extra Practice

Assume that the lines that appear to be tangent are tangent. P is the center of each circle. Find the value of x .

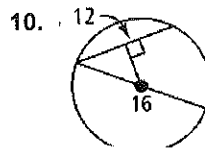
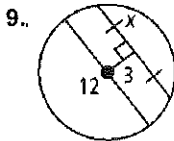
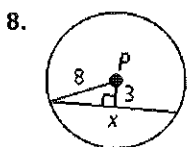


Determine whether a tangent line is shown in each diagram. Explain.



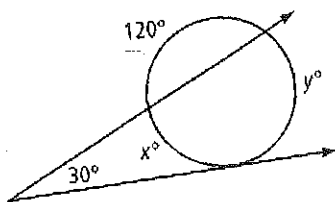
Find the perimeter of quadrilateral ABCD

Find the value of x .

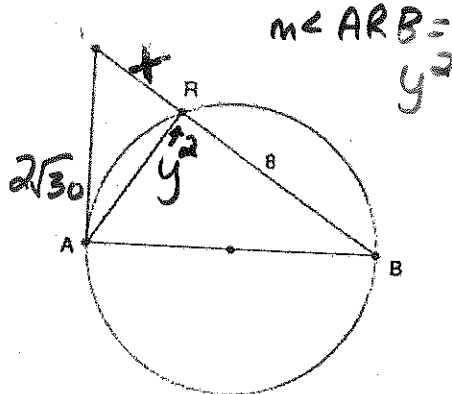


FIND x & y

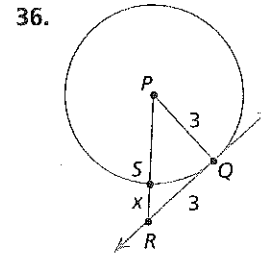
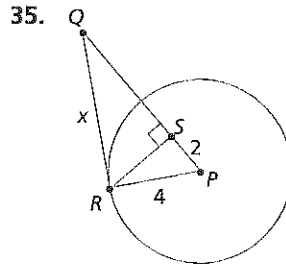
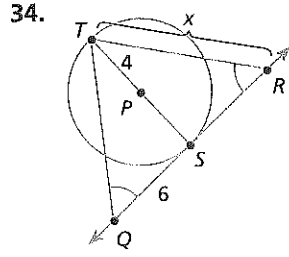
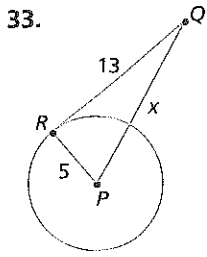
11)



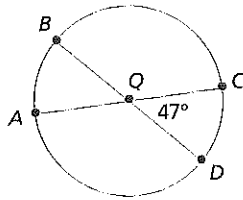
12)



In Exercises 33–36, \overline{QR} is tangent to $\odot P$. Find x .



In Exercises 37–42, find the measure of the arc.

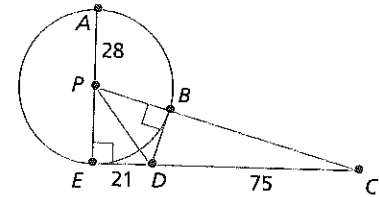


37. \widehat{AB}
40. \widehat{BCA}

38. \widehat{BC}
41. \widehat{ADC}

39. \widehat{ABD}
42. \widehat{CD}

In Exercises 43–48, find the length of the segment.

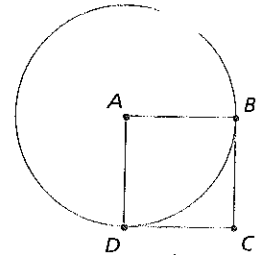


43. \overline{PB}
46. \overline{BD}

44. \overline{PE}
47. \overline{BC}

45. \overline{PD}
48. \overline{PC}

49. **College Entrance Exam** In the figure at the right, the area of square $ABCD$ is 5. What is the radius of $\odot A$?
 a. $2\sqrt{5}$ b. 5 c. 2.5 d. $\sqrt{5}$ e. $\frac{1}{2}\sqrt{5}$
50. **College Entrance Exam** \overline{RS} and \overline{RT} are tangent to $\odot O$. Which angle cannot be a right angle?
 a. $\angle OTR$ b. $\angle SRT$ c. $\angle SOT$
 d. $\angle RSO$ e. $\angle TOR$



51. Use the diagram to match the phrase with the point, segment, or line.

- | | |
|--------------------------------|--------------------------------|
| a. Center of a circle | b. Interior point of $\odot Q$ |
| c. Exterior point of $\odot P$ | d. Chord |
| e. Diameter | f. Radius |
| g. Point of tangency | h. Secant |
| i. Common external tangent | j. Common internal tangent |

- | | | | | |
|--------------------|--------------------|--------------------|--------------------|---------|
| 1. \overline{EH} | 2. \overline{AD} | 3. \overline{CF} | 4. I | 5. B |
| 6. \overline{BG} | 7. \overline{CF} | 8. Q | 9. \overline{QH} | 10. F |

