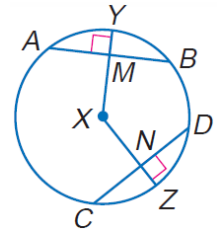


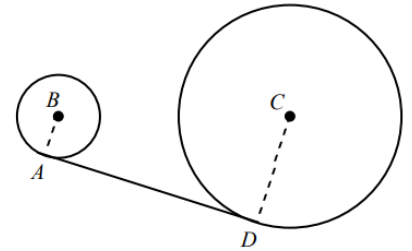
# 9.REV.2 SEGMENTS OF A CIRCLE

Given:  $\odot X$ ,  $\overline{XM} \cong \overline{XN}$ ,  $AB = 30$  &  $XY = 21$ . Find each measure. *Approximate to two decimal places.*

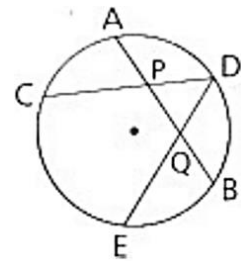
1.  $AM$
2.  $CD$
3.  $MX$
4.  $DX$



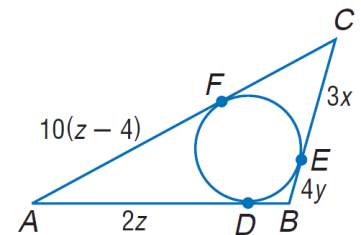
5.  $\overline{AD}$  is tangent to both circles;  $AB = 9$ ,  $AD = 23$ , and  $CD = 17$ . Use the Common Tangent Procedure to find the length of  $\overline{BC}$ . *Approximate to two decimal places.*



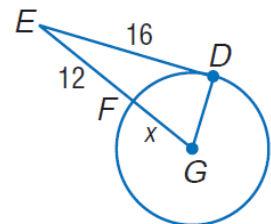
6. In the figure,  $AP = 3$ ,  $PQ = 5$ ,  $QB = 7$ ,  $CP = 2$ , and  $QD = 14$ . Find  $PD$  and  $EQ$ .



7. Find the values of  $x$ ,  $y$ , and  $z$  if  $CF = 6(3 - x)$  and  $DB = 12y - 4$ . Then find the perimeter of  $\triangle ABC$ .

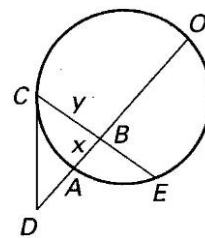


8.  $\overline{DE}$  is tangent to  $\odot G$ . Use the Tangent to a Circle Theorem to find the value of  $x$ .

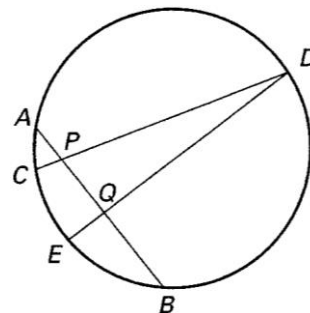


9. A circle is centered at  $M(-2, -5)$  and passes through  $E(1, 4)$ , which is a point of tangency. Find the equation of the tangent that passes through  $E$ .

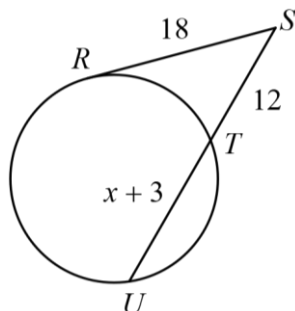
10. In the diagram shown,  $BE = 7$ ,  $BO = 14$ ,  $AD = 6$ , and  $CD = 12$ .  
Use Power Theorems to find the values of  $x$  and  $y$ .



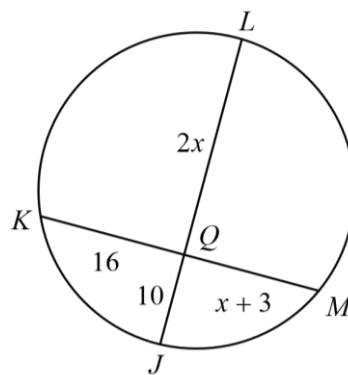
11. In the figure shown, let  $AP = x$ ,  $PQ = x + 2$ ,  $QB = x + 4$ ,  $CP = 2$ ,  $PD = 6x$ ,  $EQ = y$ , and  $QD = 14$ . Use Power Theorems to set up and solve equations to find the values of  $x$  and  $y$ .



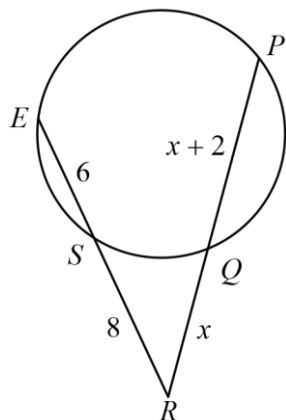
12. Find the value of  $x$  and  $TU$ .



13. Find the value of  $x$  and  $KM$ .



14. Find the value of  $x$  and  $QR$ .



15. Find the value of  $x$  and  $RS$ .

