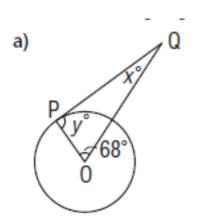
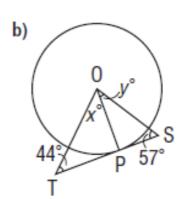
## **Mid-Unit Review**

8.1

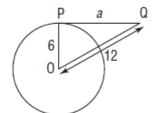
**1.** Point O is the centre of each circle and P is a point of tangency. Determine each value of  $x^{\circ}$  and  $y^{\circ}$ .

Which circle properties did you use?

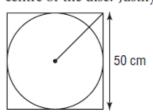




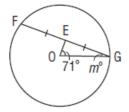
**2.** Point O is the centre of a circle and point P is a point of tangency. Determine the value of *a*. Explain your strategy.



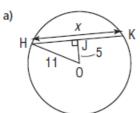
3. A metal disc is to be cut from a square sheet with side length 50 cm.
How far from a corner of the sheet is the centre of the disc? Justify your strategy.

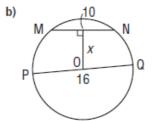


**4.** Point O is the centre of the circle. Determine the value of  $m^{\circ}$ .

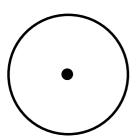


**5.** Point O is the centre of each circle. Determine each value of *x*.





- **6.** A circle has diameter 32 cm. A chord AB is 6 cm from O, the centre of the circle.
  - a) Sketch a diagram.
  - b) What is the length of the chord? Which circle properties did you use to find out?



**7.** Water is flowing through a pipe with radius 14 cm. The maximum depth of the water is 9 cm. What is the width, PQ, of the surface of the water?

