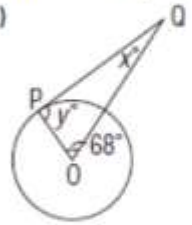
Tangents & Chords – Extra Practice

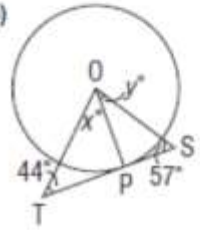
Give the answers to the nearest tenth where necessary. **8.2**

1. Point O is the centre of each circle and P is a point of tangency. Determine each value of $x°$ and $y°$.
Which circle properties did you use?

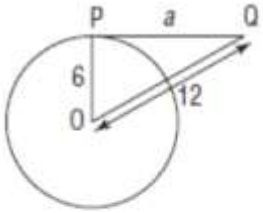
a)



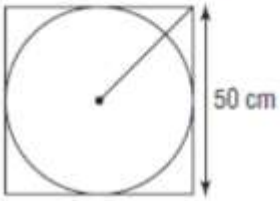
b)



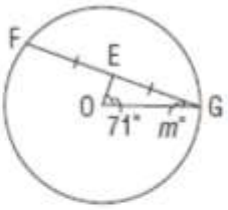
2. Point O is the centre of a circle and point P is a point of tangency. Determine the value of a. Explain your strategy.



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.

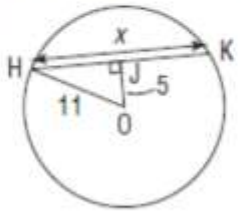


4. Point O is the centre of the circle. Determine the value of $m°$.

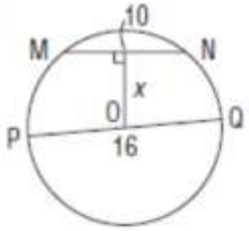


5. Point O is the centre of each circle. Determine each value of x.

a)

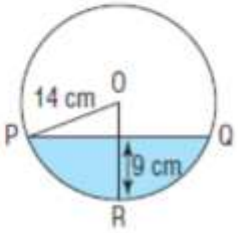


b)

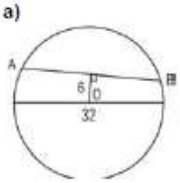


6. A circle has diameter 32 cm. A chord AB is 6 cm from O, the centre of the circle.
a) Sketch a diagram.
b) What is the length of the chord? Which circle properties did you use to find out?

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?



1. **a)** $x° = 22°, y° = 90°$ **b)** $x° = 46°, y = 33°$
2. About 10.4
3. About 35.4 cm
4. $m° = 19°$
5. **a)** About 19.6 **b)** About 6.2
6. **a)**



b) About 29.7 cm
7. About 26.2 cm