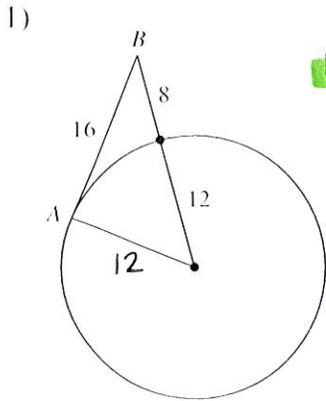


# Tangents to Circles

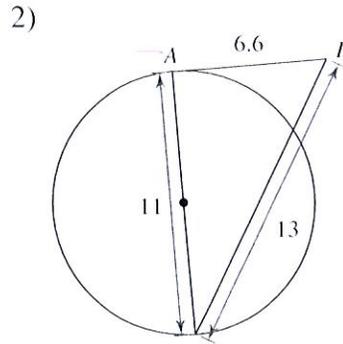
Determine if line AB is tangent to the circle.



$$12^2 + 16^2 \stackrel{?}{=} 20^2$$

$$400 = 400 \checkmark$$

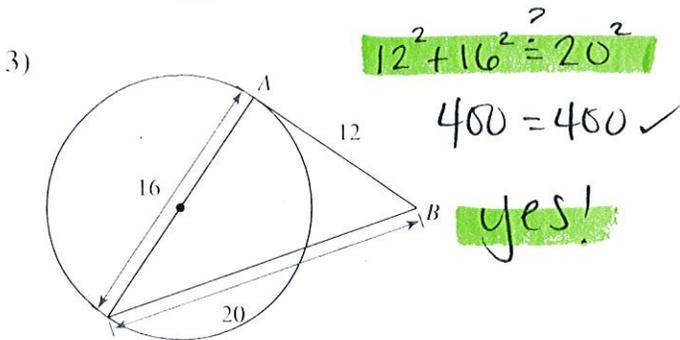
**yes!**



$$11^2 + 6.6^2 \stackrel{?}{=} 13^2$$

$$164.56 \neq 169 \times$$

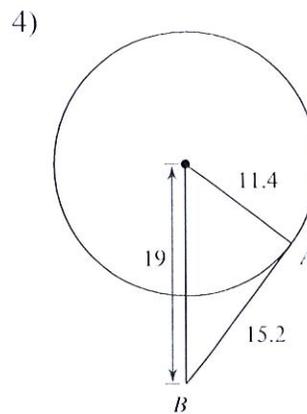
**no!**



$$12^2 + 16^2 \stackrel{?}{=} 20^2$$

$$400 = 400 \checkmark$$

**yes!**

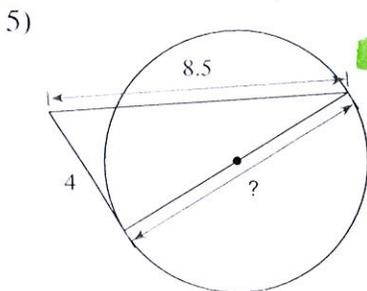


$$11.4^2 + 15.2^2 = 19^2$$

$$361 = 361 \checkmark$$

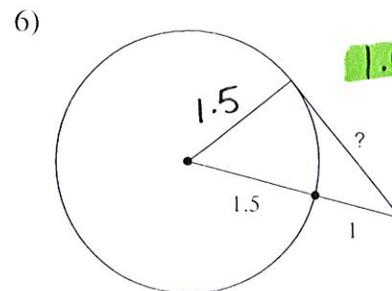
**yes!**

Find the segment length indicated. Assume that lines which appear to be tangent are tangent.



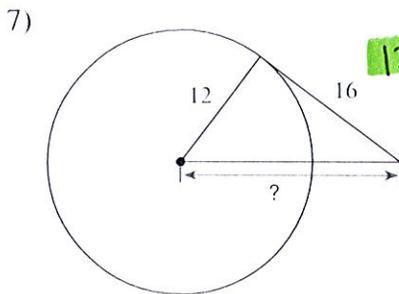
$$4^2 + x^2 = 8.5^2$$

$$x = 7.5$$



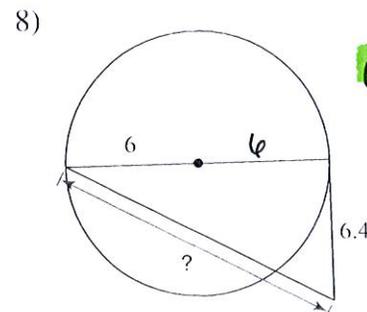
$$1.5^2 + x^2 = 2.5^2$$

$$x = 2$$



$$12^2 + 16^2 = x^2$$

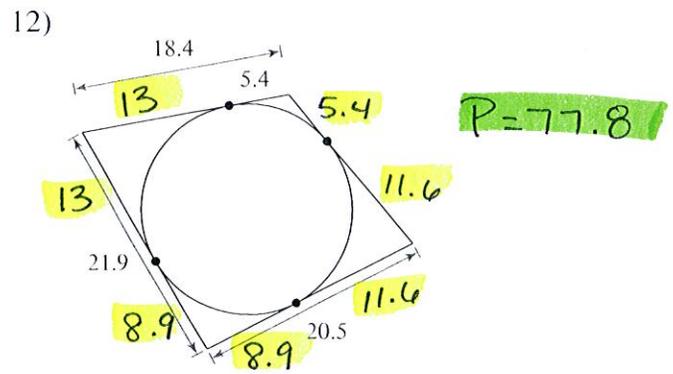
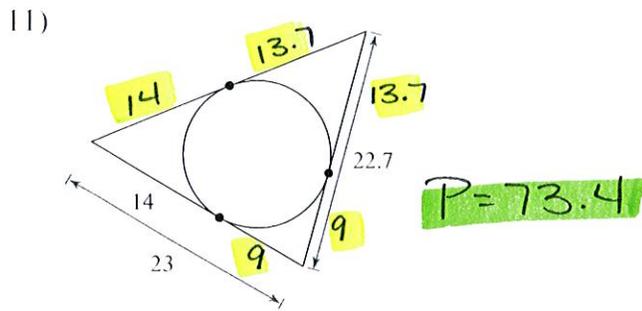
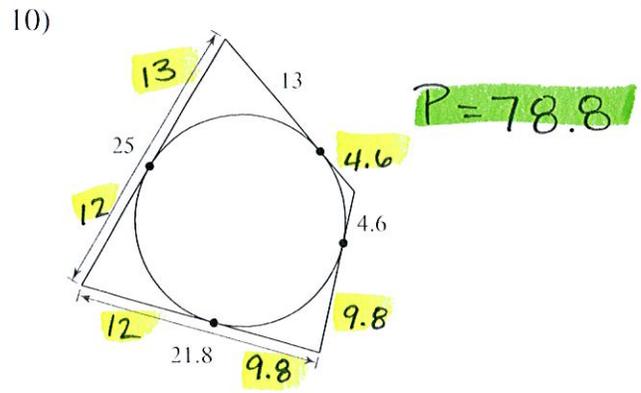
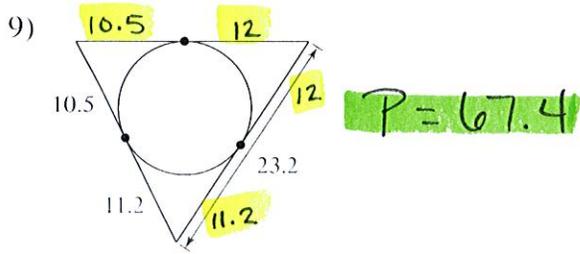
$$x = 20$$



$$6.4^2 + 12^2 = x^2$$

$$x = 13.6$$

Find the perimeter of each polygon. Assume that lines which appear to be tangent are tangent.



Find the angle measure indicated. Assume that lines which appear to be tangent are tangent.

