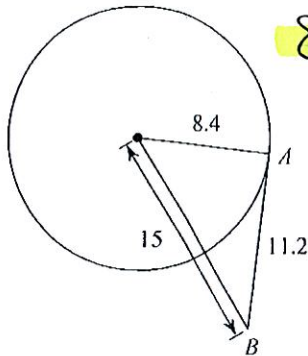


Tangents & Party Hats

Determine if line AB is tangent to the circle.

$a^2 + b^2 = c^2$

1)

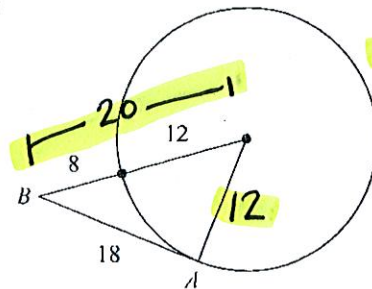


$8.4^2 + 11.2^2 = 15^2$

$196 \neq 225$

No!

2)

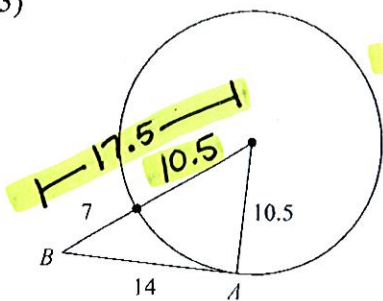


$12^2 + 18^2 = 20^2$

$468 \neq 400$

No!

3)

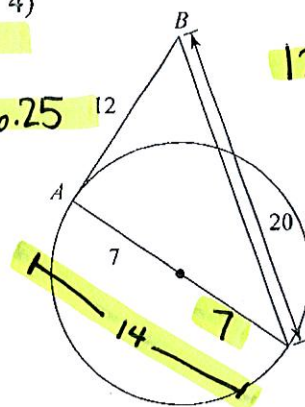


$10.5^2 + 14^2 = 17.5^2$

$306.25 = 306.25$

Yes!

4)



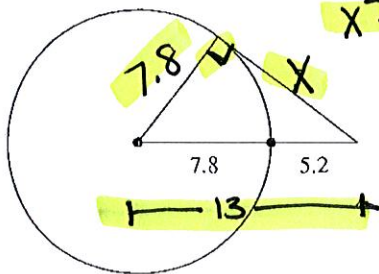
$12^2 + 14^2 = 20^2$

$340 \neq 400$

No!

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

5)

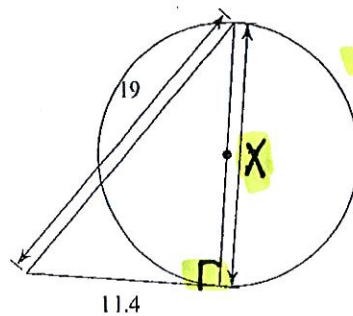


$x^2 + 7.8^2 = 13^2$

$x^2 = 108.16$

$x = 10.4$

6)

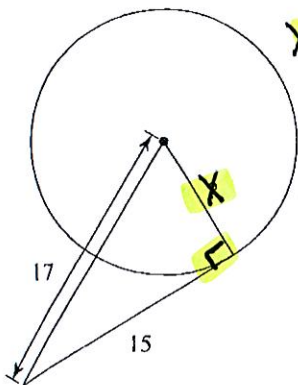


$x^2 + 11.4^2 = 19^2$

$x^2 = 231.04$

$x = 15.2$

7)

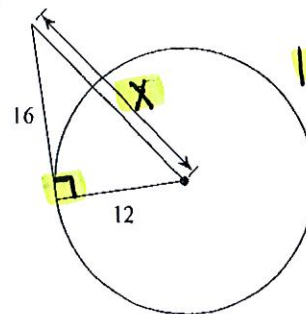


$x^2 + 15^2 = 17^2$

$x^2 = 64$

$x = 8$

8)

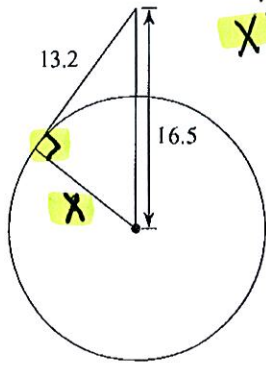


$12^2 + 16^2 = x^2$

$400 = x^2$

$x = 20$

9)

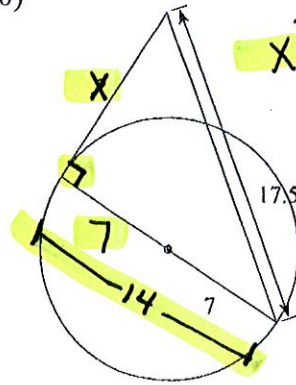


$$x^2 + 13.2^2 = 16.5^2$$

$$x^2 = 98.01$$

$$x = 9.9$$

10)



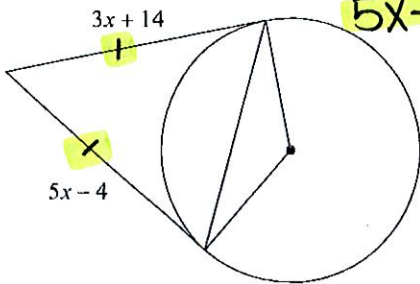
$$x^2 + 14^2 = 17.5^2$$

$$x^2 = 110.25$$

$$x = 10.5$$

Solve for x. Assume that lines which appear to be tangent are tangent.

11)

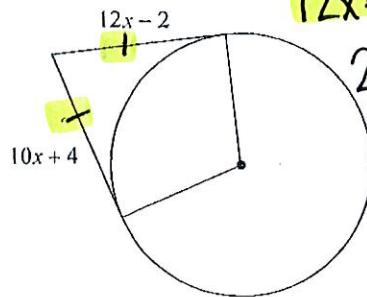


$$5x - 4 = 3x + 14$$

$$2x = 18$$

$$x = 9$$

12)

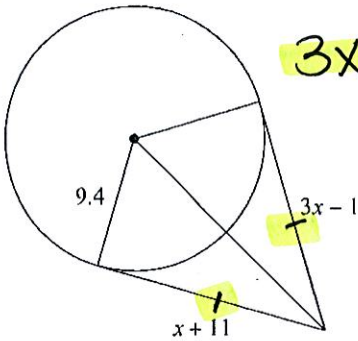


$$12x - 2 = 10x + 4$$

$$2x = 6$$

$$x = 3$$

13)

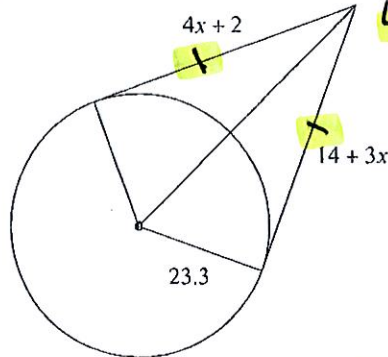


$$3x - 1 = x + 11$$

$$2x = 12$$

$$x = 6$$

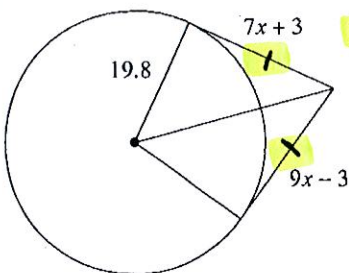
14)



$$4x + 2 = 14 + 3x$$

$$x = 12$$

15)

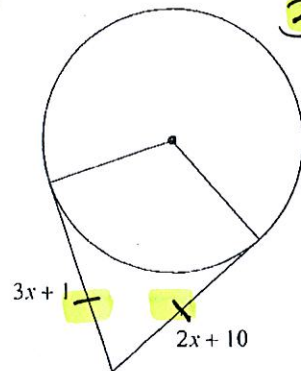


$$9x - 3 = 7x + 3$$

$$2x = 6$$

$$x = 3$$

16)

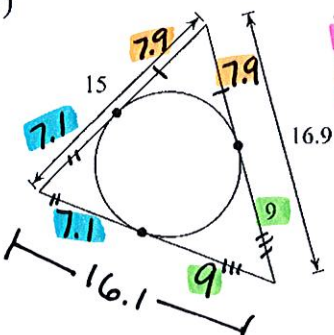


$$3x + 1 = 2x + 10$$

$$x = 9$$

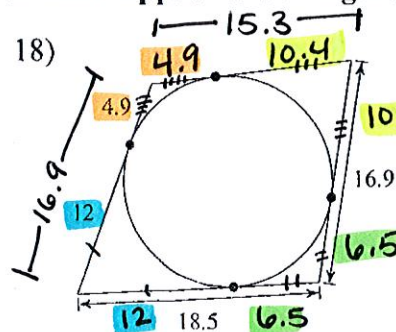
Find the perimeter of each polygon. Assume that lines which appear to be tangent are tangent.

17)



$$P = 48$$

18)



$$P = 67.6$$