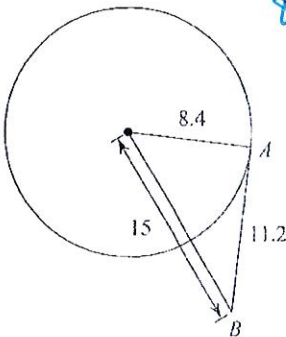


Tangents & Party Hats

Determine if line AB is tangent to the circle.

1)

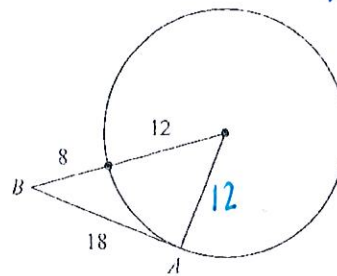


$$8.4^2 + 11.2^2 = 15^2$$

$$196 \neq 225$$

NO

2)

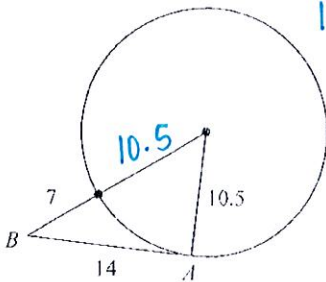


$$12^2 + 18^2 = 20^2$$

$$468 \neq 400$$

NO

3)

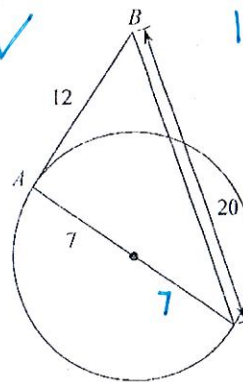


$$10.5^2 + 14^2 = 17.5^2$$

$$306.25 = 306.25 \checkmark$$

yes

4)



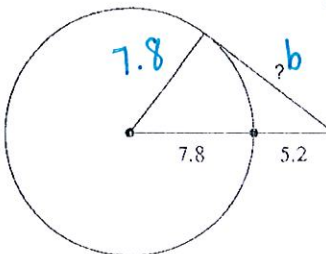
$$14^2 + 12^2 = 20^2$$

$$340 \neq 400$$

NO

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

5)



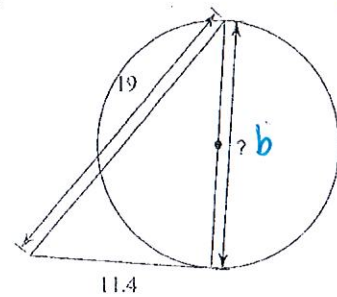
$$7.8^2 + b^2 = 13^2$$

$$b^2 = 108.16$$

$$b = 10.4$$

? = 10.4

6)



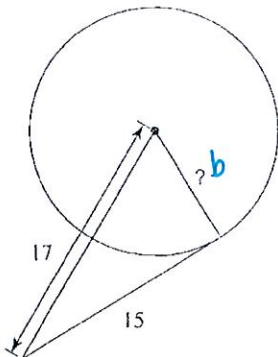
$$11.4^2 + b^2 = 19^2$$

$$b^2 = 231.04$$

$$b = 15.2$$

? = 15.2

7)



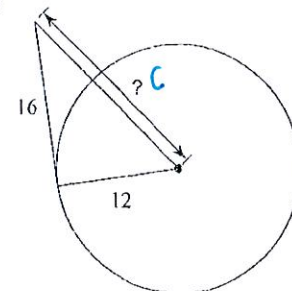
$$15^2 + b^2 = 17^2$$

$$b^2 = 64$$

$$b = 8$$

? = 8

8)



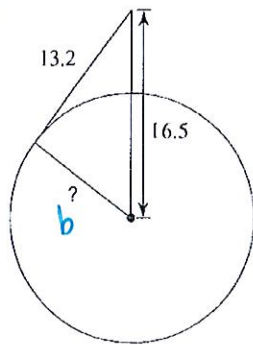
$$16^2 + 12^2 = c^2$$

$$400 = c^2$$

$$c = 20$$

? = 20

9)



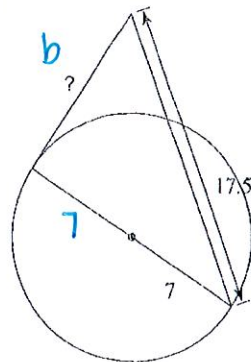
$$13.2^2 + b^2 = 16.5^2$$

$$b^2 = 98.01$$

$$b = 9.9$$

$$\boxed{? = 9.9}$$

10)



$$14^2 + b^2 = 17.5^2$$

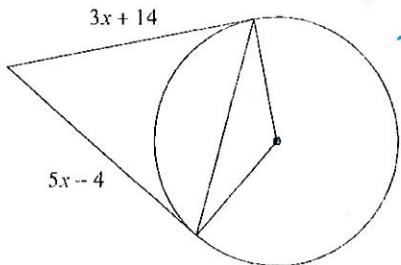
$$b^2 = 110.25$$

$$b = 10.5$$

$$\boxed{? = 10.5}$$

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

11)

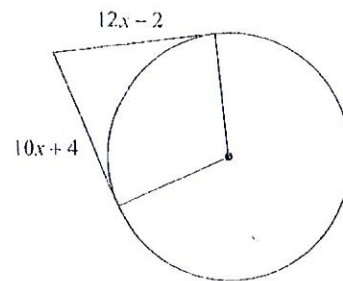


$$3x+14 = 5x-4$$

$$-2x = -18$$

$$\boxed{x = 9}$$

12)

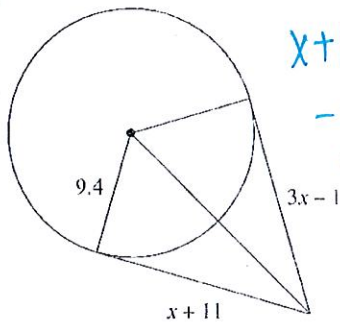


$$12x-2 = 10x+4$$

$$2x = 6$$

$$\boxed{x = 3}$$

13)

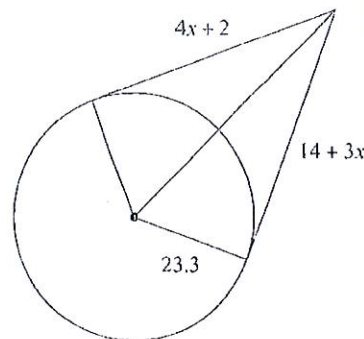


$$x+11 = 3x-1$$

$$-2x = -12$$

$$\boxed{x = 6}$$

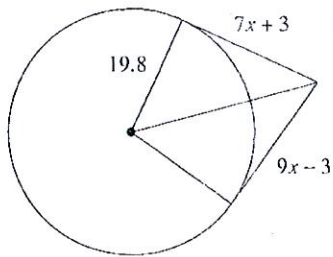
14)



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

$$\boxed{x = 12}$$

15)

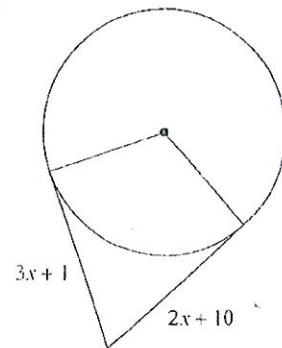


$$7x+3 = 9x-3$$

$$-2x = -6$$

$$\boxed{x = 3}$$

16)

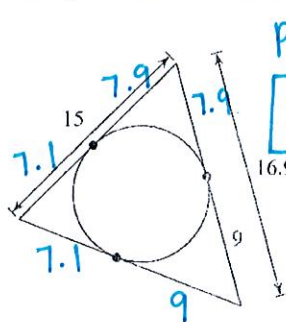


$$3x+1 = 2x+10$$

$$\boxed{x = 9}$$

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

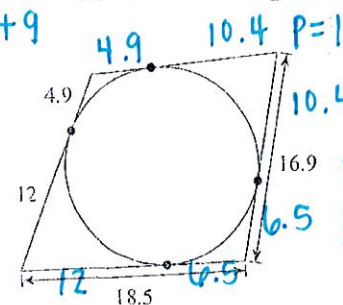
17)



$$P = 7.1 + 7.1 + 7.9 + 7.9 + 9 + 9$$

$$\boxed{P = 48}$$

18)



$$P = 18.5 + 16.9 + 10.4 + 4.9 + 4.9 + 12$$

$$\boxed{P = 67.6}$$