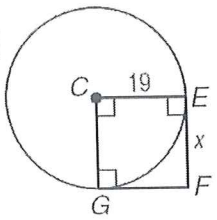
Name: _____ Hour: _____

Tangent Homework

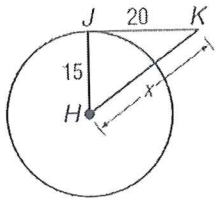
For each problem, find x. Assume the segments that appear to be tangent are tangent.

1



$x = 19$

2.

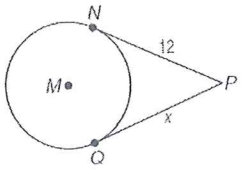


$20^2 + 15^2 = x^2$

$625 = x^2$

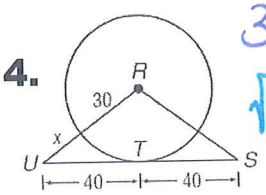
$x = 25$

3.



$x = 12$

4.



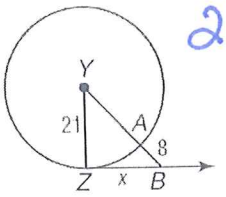
$30^2 + 40^2 = (x+30)^2$

$\sqrt{2500} = \sqrt{(x+30)^2}$

$50 = x + 30$

$x = 20$

5.

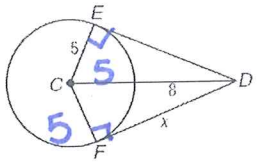


$21^2 + x^2 = 29^2$

$x^2 = 400$

$x = 20$

6.

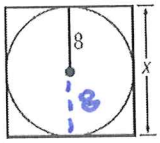


$5^2 + x^2 = 13^2$

$x^2 = 144$

$x = 12$

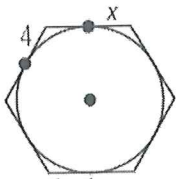
7.



square

$x = 16$

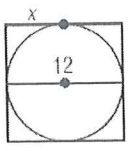
8.



regular hexagon

$x = 4$

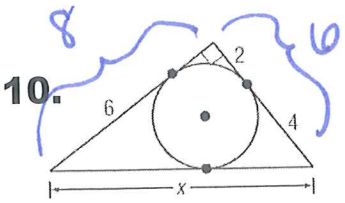
9.



square

$x = 6$

10.

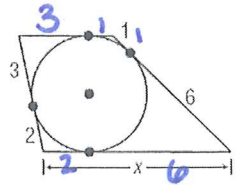


$8^2 + 6^2 = x^2$

$100 = x^2$

$x = 10$

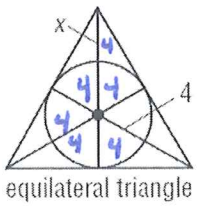
11.



$x = 6 + 2$

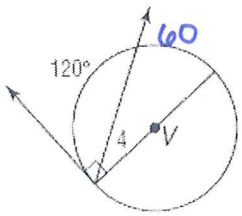
$x = 8$

12.



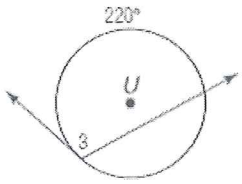
$x = 4$

13. $m\angle 4$



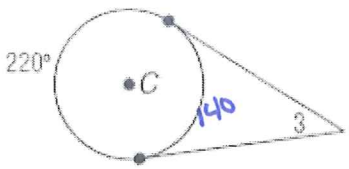
$30°$

14. $m\angle 3$



$110°$

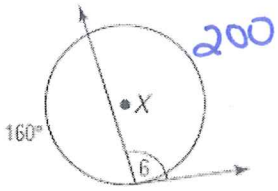
15. $m\angle 3$



$\frac{1}{2}(220 - 140)$

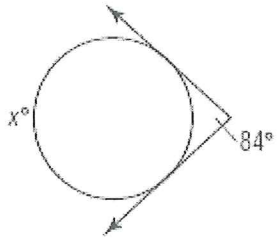
$\frac{1}{2}(80) = 40°$

16. $m\angle 6$



$100°$

17.



$x = 264°$

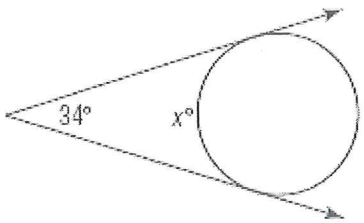
$84 = \frac{1}{2}(x - (360 - x))$

$84 = \frac{1}{2}(2x - 360)$

$168 = 2x - 360$

$528 = 2x$

18.



$34 = \frac{1}{2}(360 - x - x)$

$68 = 360 - 2x$

$-292 = -2x$ $\quad x = 146°$