

Name Key
Date _____ Period _____

Tangents to Circles

Determine if line AB is tangent to the circle.

1) **Tangent**
 $12 + 8 = 16$
 $16 = 16 \checkmark$

2) **NO**
 $(6.6)^2 + (11)^2 \stackrel{?}{=} (13)^2$
 $64.56 \neq 169$

3) **Tangent**
 $(12)^2 + (16)^2 = (20)^2$
 $400 = 400 \checkmark$

4) **Tangent**
 $(11.4)^2 + (15.2)^2 = 19^2$
 $361 = 361 \checkmark$

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

5) $4^2 + b^2 = 8.5^2$
b = 7

6) $(1.5)^2 + b^2 = (2.5)^2$
b = 2

7) $12^2 + 16^2 = c^2$
c = 20

8) $(6)^2 + (6.4)^2 = c^2$
13.6 = c

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

9) **67.4**

10) **78.8**

11) **73.4**

12) **77.8**

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

13) $180 - 54 - 90 = x$
36°

14) $180 - 46 - 46 = x$
88°

15) $360 - 117 = 243$
 $? = \frac{1}{2}(243 - 117)$
63°

16) $? = 180 - 38 - 38$
104°