GSE Geometry
Circle Definitions and Tangent Practice

Name: Answer key
Date: _____ Period: _____

The diameter of a circle is given. Find the radius.

1. d = 6 in.
2. d = 24 cm
3. d= 15ft
4. d = 9 in.

The radius of a circle is given. Find the diameter.

5. r = 11 cm
6. r = 8 ft
7. r = 10 in.
8. r = 4.6 cm

Give the vocabulary word that best describes the given line, segment or point.

9. D

10. $\overline{FH}$

11. $\overline{CD}$

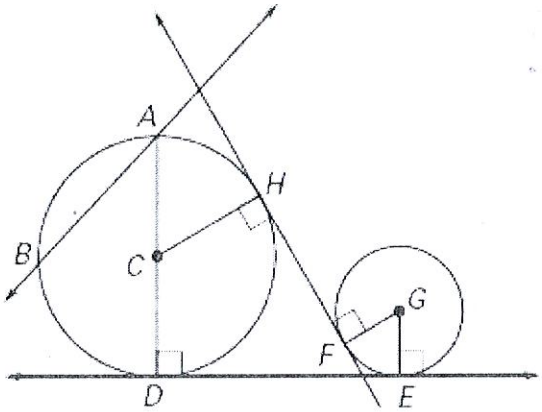
12. $\overline{AB}$

13. C

14. $\overline{AD}$

15. $\overline{AB}$

16. $\overline{DE}$



Tell whether $\overleftrightarrow{AB}$ is tangent to $\odot C$. Explain your reasoning (in other words, show ALL your work!).

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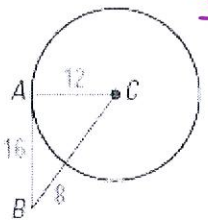


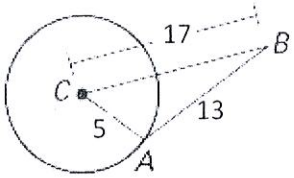
Is $12^2+16^2=20^2$?

$144+256=400$?

$400=400$ ✓

Yes! $\overleftrightarrow{AB}$ is tangent!

18.



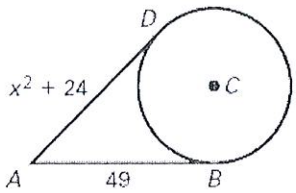
Is $5^2+13^2=17^2$?

$25+169=289$?

No!

Solve for x.

19.

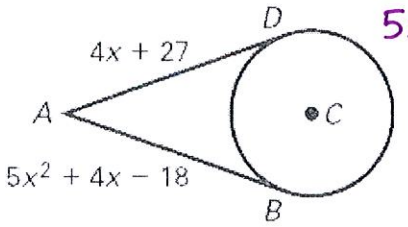


$x^2+24=49$

$x^2=25$

$\boxed{x=\pm 5}$

20.



$5x^2+4x-18=4x+27$

$5x^2=45$

$x^2=9$

$\boxed{x=\pm 3}$

Application problem

21. a) You are standing 8 feet from a circular monument. The distance from you to a point of tangency on the monument is 32 ft. What is the radius of the monument?

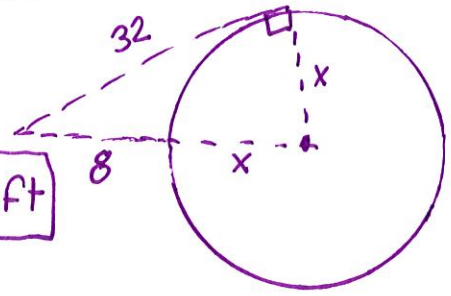
$x^2 + 32^2 = (x+8)^2$

$x^2 + 1024 = x^2 + 16x + 64$

$960 = 16x$

$x = 60$

$\boxed{\text{radius is 60ft}}$



b) What is the circumference of the monument?

$C = 2\pi r$

$\boxed{= 120\pi \text{ Ft}}$