10-2

Exercises

California Standards
16.0, 17.0

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Homework Help Online
KEYWORD: MB7 10-2
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GUIDED PRACTICE

1. **Vocabulary** How can you recognize a *tangent* of a circle?
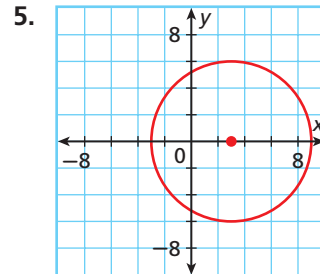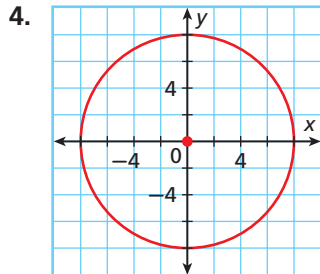
SEE EXAMPLE **1**
p. 729

Write the equation of each circle.

2. center $(6, -5)$ and radius $r = 4$

3. center $(-11, 3)$ and radius $r = 9$

SEE EXAMPLE **2**
p. 730

4.

5.

6. center $(-1, 9)$ and containing the point $(2, 5)$

7. center $(-2, -5)$ and containing the point $(-10, -20)$

SEE EXAMPLE **3**
p. 730

Depending on its strength, an earthquake can be felt in locations miles away from the epicenter.

8. **Multi-Step** Suppose that the epicenter of the earthquake is located at the point $(5, -2)$ and is felt up to 10 mi away. Use the equation of a circle to find the locations that are affected.

9. **Multi-Step** Suppose that the epicenter of the earthquake is located at the point $(-5, -7)$ and is felt up to 8 mi away. Use the equation of a circle to find the locations that are affected.
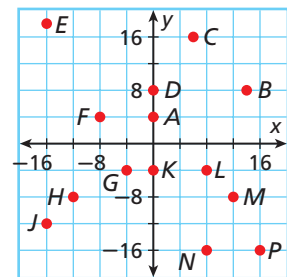
SEE EXAMPLE **4**
p. 731

Multi-Step Write the equation of the line that is tangent to each circle at the given point.

10. $x^2 + y^2 = 100;\ (8, 6)$

11. $(x + 6)^2 + (y + 4)^2 = 25;\ (-9, -8)$

PRACTICE AND PROBLEM SOLVING

Independent Practice

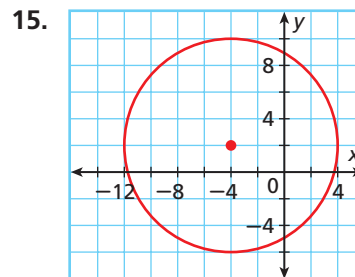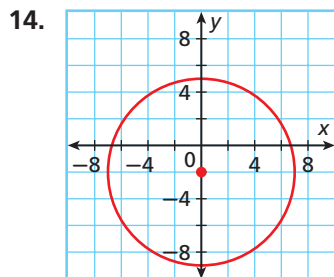| For Exercises	See Example
12–13	1
14–17	2
18–19	3
20–21	4

Extra Practice

Skills Practice p. S22
Application Practice p. S41

Write the equation of each circle.

12. center $(3, 2)$ and radius $r = 7$

13. center $(5, 1)$ and radius $r = 10$

14.

15.

16. center $(12, -3)$ and containing the point $(-12, 7)$

17. center $(-6, -4)$ and containing the point $(-2, -1)$