Name _____ Score _____ / 10 Teacher _____ Date _____

Writing Equations of Circles

Use the given information to write each circle in standard form.

1. Write the circle in standard form.

$x^2 + y^2 - 81 = 0$

Standard equation:

2. Center: (9, 11)

Radius: 8

Standard equation:

3. Points: (6, -8), (3, -5), (0, -8)

Standard equation:

4. Translate by (-4, 1).

$x^2 + y^2 - 20 \cdot x - 4 \cdot y - 17 = 0$

Standard equation:

5. Translate by (2, 2).

$(x + 9)^2 + (y + 5)^2 = 36$

Standard equation:

6. Diameter endpoints: (-3, 11) and (3, 11)

Standard equation:

7. Center: (-10, -4)

Area: 36 pi square units

Standard equation:

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Writing Equations of Circles

Use the given information to write each circle in standard form.

8. Center: (-9, 0)
Circumference: 2 pi units
Standard equation:

9. Center: (-7, -2)
Point on circle: (4, -2)
Standard equation:

10. Center: (5, -3)
Tangent line: x = 8
Standard equation:

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Writing Equations of Circles

Answer Key

Use the given information to write each circle in standard form.

1. Write the circle in standard form.

$x^2 + y^2 - 81 = 0$

Answer: $x^2 + y^2 = 81$

2. Center: (9, 11)

Radius: 8

Answer: $(x - 9)^2 + (y - 11)^2 = 64$

3. Points: (6, -8), (3, -5), (0, -8)

Answer: $(x - 3)^2 + (y + 8)^2 = 9$

4. Translate by (-4, 1).

$x^2 + y^2 - 20 \cdot x - 4 \cdot y - 17 = 0$

Answer: $(x - 6)^2 + (y - 3)^2 = 121$

5. Translate by (2, 2).

$(x + 9)^2 + (y + 5)^2 = 36$

Answer: $(x + 7)^2 + (y + 3)^2 = 36$

6. Diameter endpoints: (-3, 11) and (3, 11)

Answer: $x^2 + (y - 11)^2 = 9$

7. Center: (-10, -4)

Area: 36 pi square units

Answer: $(x + 10)^2 + (y + 4)^2 = 36$

8. Center: (-9, 0)

Circumference: 2 pi units

Answer: $(x + 9)^2 + y^2 = 1$

9. Center: (-7, -2)

Point on circle: (4, -2)

Answer: $(x + 7)^2 + (y + 2)^2 = 121$

10. Center: (5, -3)

Tangent line: x = 8

Answer: $(x - 5)^2 + (y + 3)^2 = 9$