Geometry Name_____

6.9 - Changing Forms of Circle Equations

Date_____

Write the standard form of each circle equation. State the center and radius.

1) $x^2 + y^2 + 8y - 128 = 0$

$x^2 + (y + 4)^2 = 144$

2) $x^2 + y^2 - 14x + 16y + 88 = 0$

$(x - 7)^2 + (y + 8)^2 = 25$

3) $x^2 + y^2 - 26x + 6y + 163 = 0$

$(x - 13)^2 + (y + 3)^2 = 15$

4) $x^2 + y^2 - 28x + 2y + 193 = 0$

$(x - 14)^2 + (y + 1)^2 = 4$

5) $x^2 + y^2 + 24x + 133 = 0$

$(x + 12)^2 + y^2 = 11$

6) $x^2 + y^2 - 18x + 24y + 182 = 0$

$(x - 9)^2 + (y + 12)^2 = 43$

7) $x^2 + y^2 + 16x - 28y + 259 = 0$

$(x + 8)^2 + (y - 14)^2 = 1$

8) $x^2 + y^2 + 26x + 18y + 219 = 0$

$(x + 13)^2 + (y + 9)^2 = 31$

Write the general form of each circle equation.

9) $(x + 10)^2 + (y - 4)^2 = 46$

$x^2 + y^2 + 20x - 8y + 70 = 0$

10) Center: $(-10, -15)$
Radius: 3

$x^2 + y^2 + 20x + 30y + 316 = 0$

11) Center: $(13, -8)$
Area: π

$x^2 + y^2 - 26x + 16y + 232 = 0$

12) Center: $(-4, 2)$
Circumference: 14π

$x^2 + y^2 + 8x - 4y - 29 = 0$

13) Center: $(11, 0)$
Point on Circle: $(3, 0)$

$x^2 + y^2 - 22x + 57 = 0$

14) Center: $(15, 13)$
Point on Circle: $(19, 13)$

$x^2 + y^2 - 30x - 26y + 378 = 0$

15) Center: $(-5, 9)$
Point on Circle: $(-7, 11)$

$x^2 + y^2 + 10x - 18y + 98 = 0$

16) Center: $(-11, 11)$
Point on Circle: $(-15, 17)$

$x^2 + y^2 + 22x - 22y + 190 = 0$

17) Ends of a diameter: $(-9, 5)$ and $(1, 1)$

$x^2 + y^2 + 8x - 6y - 4 = 0$

18) Ends of a diameter: $(6, 8)$ and $(16, 6)$

$x^2 + y^2 - 22x - 14y + 144 = 0$

19) Ends of a diameter: $(19, 5)$ and $(-5, 1)$

$x^2 + y^2 - 14x - 6y - 90 = 0$

20) Ends of a diameter: $(11, -5)$ and $(11, -7)$

$x^2 + y^2 - 22x + 12y + 156 = 0$