Name_____

Writing Equations of Circles

Date_____ Period____

Use the information provided to write the standard form equation of each circle.

1) $8x + x^2 - 2y = 64 - y^2$

2) $137 + 6y = -y^2 - x^2 - 24x$

3) $x^2 + y^2 + 14x - 12y + 4 = 0$

4) $y^2 + 2x + x^2 = 24y - 120$

5) $x^2 + 2x + y^2 = 55 + 10y$

6) $8x + 32y + y^2 = -263 - x^2$

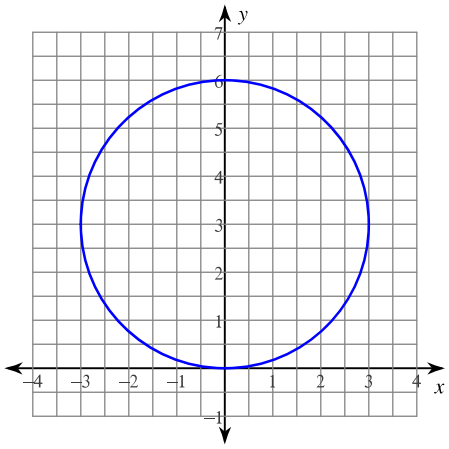
7) Center: $(-11, -8)$
Radius: 4

8) Center: $(-6, -15)$
Radius: $\sqrt{5}$

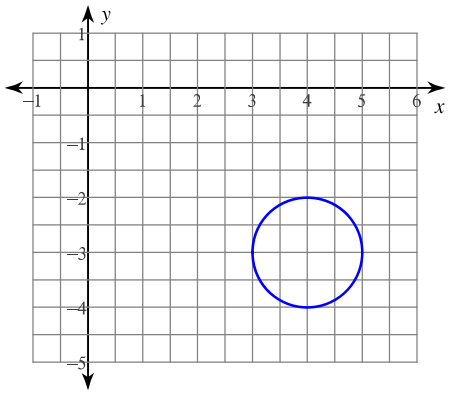
9) $(x - 16)^2 + (y - 6)^2 = 1$
Translated 4 left, 2 up

10) $(x + 5)^2 + (y + 7)^2 = 36$
Translated 5 left, 4 down

11)



12)



13) Ends of a diameter: $(-17, -9)$ and $(-19, -9)$

14) Ends of a diameter: $(-3, 11)$ and $(3, -13)$

15) Center: $(-15, 3\sqrt{7})$
Area: 2π

16) Center: $(-11, -14)$
Area: 16π

17) Center: $(-5, 12)$
Circumference: 8π

18) Center: $(15, 14)$
Circumference: $2\pi\sqrt{15}$

19) Center: $(2, -5)$
Point on Circle: $(-7, -1)$

20) Center: $(14, 17)$
Point on Circle: $(15, 17)$

21) Center: $(-15, 9)$
Tangent to $x = -17$

22) Center: $(-2, 12)$
Tangent to $x = -5$

23) Center lies on the x-axis
Tangent to $x = 7$ and $x = -13$

24) Center lies in the fourth quadrant
Tangent to $x = 7$, $y = -4$, and $x = 17$

25) Three points on the circle:
$(-18, -5)$, $(-7, -16)$, and $(4, -5)$

26) Three points on the circle:
$(-7, 6)$, $(9, 6)$, and $(-4, 13)$

27) $x^2 + y^2 + 14x + 12y + 76 = 0$
Translated 2 right, 4 down

28) $x^2 + y^2 - 10x + 20y + 61 = 0$
Translated 1 left, 2 down

29) $x^2 + y^2 + 14x - 8y + 29 = 0$
Translated 3 right, 4 down

30) $4y + y^2 = -28x - x^2 - 191$
Translated 4 right