Review Topics WS #3

Name_____

Date_____ Period_____

Solve each equation.

1) $\left|-8 + x\right| = 9$

2) $\left|x - 9\right| = 1$

3) $\left|8p\right| + 10 = 50$

4) $\left|-8k\right| - 5 = 19$

5) $-2\left|5a\right| + 3 = -7$

6) $-8 + 7\left|-4 + k\right| = -1$
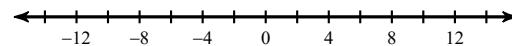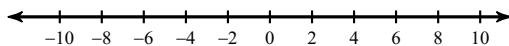
7) $8\left|-8n + 4\right| + 5 = 101$

8) $10\left|4n - 8\right| - 1 = 79$

Solve each inequality and graph its solution.
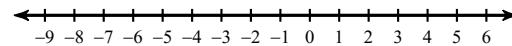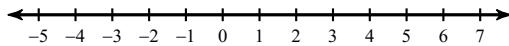
9) $\left|-7 - 9k\right| > 56$

10) $\left|4 + 8b\right| > 76$


11) $\left|7 + 8m\right| \geq 7$
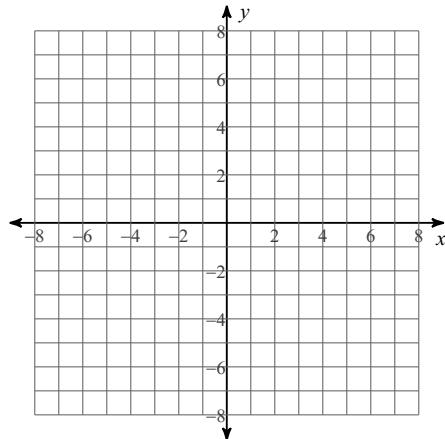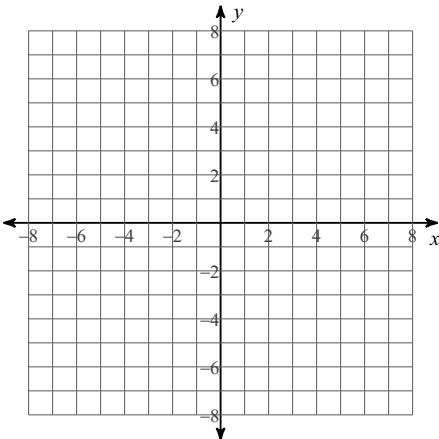
12) $\left|2 + 2x\right| > 8$
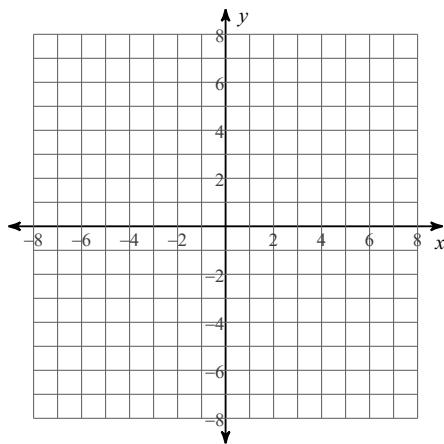
**Identify the center and radius of each. Then sketch the graph.**

13) $(x + 3)^2 + (y - 4)^2 = 4$
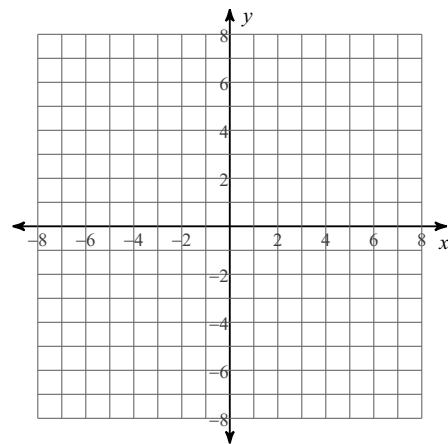

14) $(x + 1)^2 + (y + 4)^2 = 9$

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

16) $(x-3)^2 + (y+3)^2 = 16$

Classify each conic section.

17) $4x^2 + y^2 - 2y - 35 = 0$

18) $x^2 + y^2 + 2y - 15 = 0$

19) $-x^2 + 4y^2 - 2x - 24y + 19 = 0$

20) $-2y^2 + x + 12y - 13 = 0$

21) $4x^2 + 4y^2 + 32x + 12y + 37 = 0$

22) $25x^2 + 16y^2 + 16y - 396 = 0$

Solve each equation.

23) $1 + 6b = 6b + 2b - 3$

24) $6 + 5k - 1 - 6 = k + 7$

25) $36 - 2x = -4x + 6(x + 4)$

26) $21 - 7k = 7(3 + 6k)$

27) $5(3n - 5) + 4n = 35 - n$

28) $-7x + 30 = 8(3x - 4)$

Solve each equation by factoring.

29) $n^2 + 5n = 0$

30) $p^2 - 3p - 10 = 0$

31) $m^2 - 11m + 24 = 0$

32) $n^2 - 2n = 0$

33) $n^2 + 8n = -7$

34) $a^2 + 6a = 0$

35) $v^2 = -10v - 24$

36) $b^2 - 2b = 0$

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Solve each equation.

1) $|-8 + x| = 9$

$\{17, -1\}$

2) $|x - 9| = 1$

$\{10, 8\}$

3) $|8p| + 10 = 50$

$\{5, -5\}$

4) $|-8k| - 5 = 19$

$\{-3, 3\}$

5) $-2|5a| + 3 = -7$

$\{1, -1\}$

6) $-8 + 7|-4 + k| = -1$

$\{5, 3\}$

7) $8|-8n + 4| + 5 = 101$

$\{-1, 2\}$
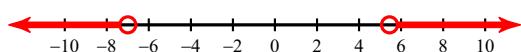
8) $10|4n - 8| - 1 = 79$

$\{4, 0\}$
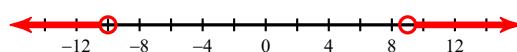
Solve each inequality and graph its solution.

9) $|-7 - 9k| > 56$
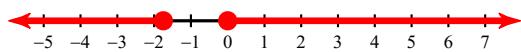
$k < -7$ or $k > \dfrac{49}{9}$

10) $|4 + 8b| > 76$
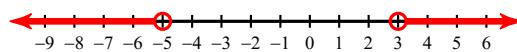
$b > 9$ or $b < -10$

11) $|7 + 8m| \geq 7$

$m \geq 0$ or $m \leq -\dfrac{7}{4}$
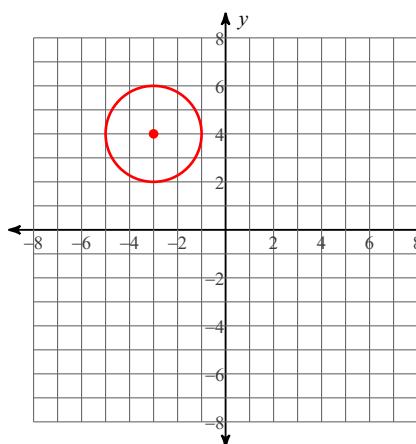
12) $|2 + 2x| > 8$

$x > 3$ or $x < -5$
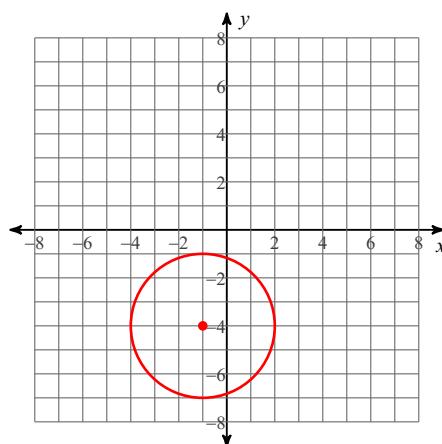
Identify the center and radius of each. Then sketch the graph.

13) $(x + 3)^2 + (y - 4)^2 = 4$
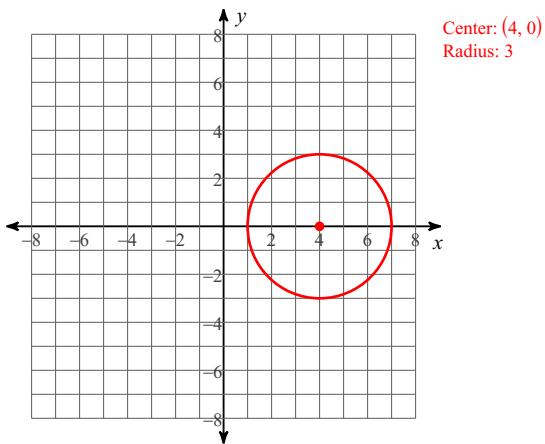
Center: $(-3, 4)$
Radius: 2

14) $(x + 1)^2 + (y + 4)^2 = 9$
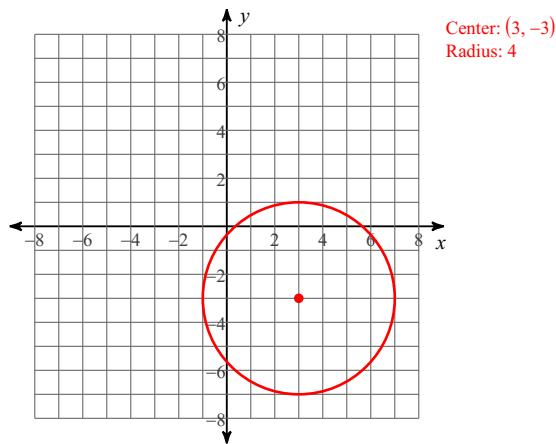
Center: $(-1, -4)$
Radius: 3

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

Center: (4, 0)
Radius: 3

16) $(x-3)^2 + (y+3)^2 = 16$

Center: (3, –3)
Radius: 4

Classify each conic section.

17) $4x^2 + y^2 - 2y - 35 = 0$

Ellipse

18) $x^2 + y^2 + 2y - 15 = 0$

Circle

19) $-x^2 + 4y^2 - 2x - 24y + 19 = 0$

Hyperbola

20) $-2y^2 + x + 12y - 13 = 0$

Parabola

21) $4x^2 + 4y^2 + 32x + 12y + 37 = 0$

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Ellipse

Solve each equation.

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$\{2\}$

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$\{2\}$

25) $36 - 2x = -4x + 6(x + 4)$

$\{3\}$

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$\{0\}$

27) $5(3n - 5) + 4n = 35 - n$

$\{3\}$

28) $-7x + 30 = 8(3x - 4)$

$\{2\}$

Solve each equation by factoring.

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$\{-5, 0\}$

30) $p^2 - 3p - 10 = 0$

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$\{3, 8\}$

32) $n^2 - 2n = 0$

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34) $a^2 + 6a = 0$

$\{-6, 0\}$

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$\{-6, -4\}$

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$\{2, 0\}$