

Name \_\_\_\_\_

Find the solution set for the inequality.

1)  $|4m + 9| + 5 \leq 7$

1) \_\_\_\_\_

2)  $\left| \frac{5y + 20}{4} \right| < 5$

2) \_\_\_\_\_

3)  $|8m + 2| + 5 \geq 9$

3) \_\_\_\_\_

4)  $|3(x + 1) + 9| \geq 15$

4) \_\_\_\_\_

5)  $5 + \left| \frac{2 - x}{2} \right| > 8$

5) \_\_\_\_\_

Solve the quadratic equation by completing the square.

6)  $x^2 + 14x + 35 = 0$

6) \_\_\_\_\_

Solve the quadratic equation using the quadratic formula.

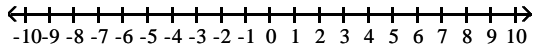
7)  $x^2 + 14x + 26 = 0$

7) \_\_\_\_\_

Solve the polynomial inequality and graph the solution set on a number line. Express the solution set in interval notation.

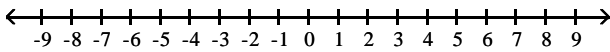
8)  $(x - 4)(x + 3) > 0$

8) \_\_\_\_\_



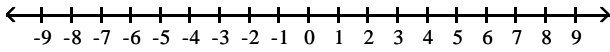
9)  $x^2 + 9x + 18 > 0$

9) \_\_\_\_\_



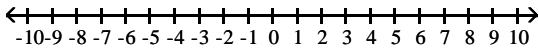
10)  $x^2 - 3x - 4 < 0$

10) \_\_\_\_\_



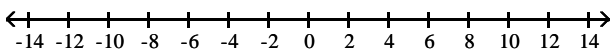
11)  $(x + 1)(x - 1)(x - 3) < 0$

11) \_\_\_\_\_



12)  $x < 56 - x^2$

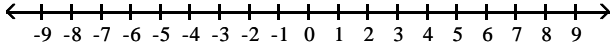
12) \_\_\_\_\_



Solve the rational inequality and graph the solution set on a real number line. Express the solution set in interval notation.

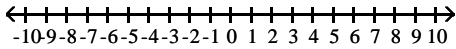
13)  $\frac{x - 5}{x + 4} < 0$

13) \_\_\_\_\_



14)  $\frac{x}{x + 4} > 0$

14) \_\_\_\_\_



Write the standard form of the equation of the circle with radius  $r$  and center  $(h, k)$ .

15)  $r = 6; (h, k) = (2, -3)$

15) \_\_\_\_\_

16)  $r = 4; (h, k) = (9, 0)$

16) \_\_\_\_\_

17)  $r = \sqrt{14}; (h, k) = (4, 6)$

17) \_\_\_\_\_

Find the center  $(h, k)$  and radius  $r$  of the circle with the given equation.

18)  $(x + 10)^2 + (y - 8)^2 = 81$

18) \_\_\_\_\_

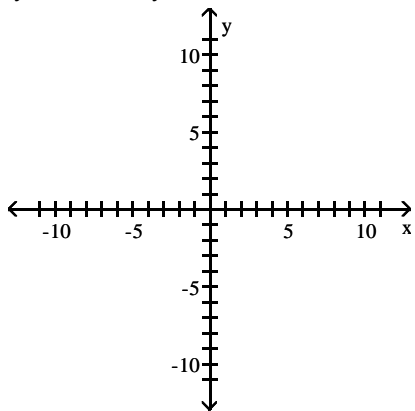
19)  $x^2 + (y + 10)^2 = 100$

19) \_\_\_\_\_

Find the center (h, k) and radius r of the circle. Graph the circle.

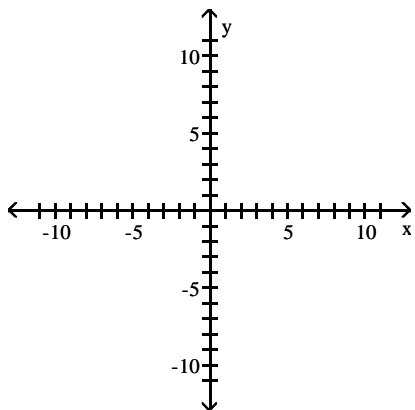
20)  $x^2 + y^2 - 10x - 4y + 4 = 0$

20) \_\_\_\_\_



21)  $x^2 + y^2 + 2x + 6y + 6 = 0$

21) \_\_\_\_\_



Find the center (h, k) and radius r of the circle with the given equation.

22)  $x^2 - 18x + 81 + (y + 9)^2 = 25$

22) \_\_\_\_\_

23)  $x^2 + 2x + 1 + y^2 - 14y + 49 = 16$

23) \_\_\_\_\_

24)  $x^2 + y^2 + 2x + 10y + 26 = 49$

24) \_\_\_\_\_

# Answer Key

## Testname: 13SPR\_CH1-3\_MATH1\_PRACTICE

1)  $\{m \mid -\frac{11}{4} \leq m \leq -\frac{7}{4}\}$

2)  $\{y \mid -8 < y < 0\}$

3)  $\{m \mid m \leq -\frac{3}{4} \text{ or } m \geq \frac{1}{4}\}$

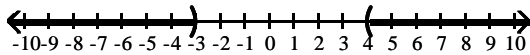
4)  $\{x \mid x \leq -9 \text{ or } x \geq 1\}$

5)  $\{x \mid x < -4 \text{ or } x > 8\}$

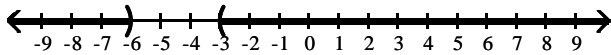
6)  $\{-7 - \sqrt{14}, -7 + \sqrt{14}\}$

7)  $\{-7 - \sqrt{23}, -7 + \sqrt{23}\}$

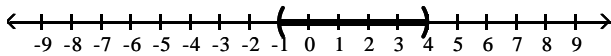
8)  $(-\infty, -3) \cup (4, \infty)$



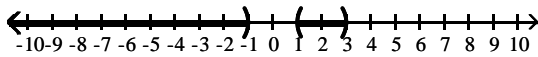
9)  $(-\infty, -6) \cup (-3, \infty)$



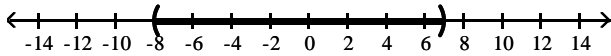
10)  $(-1, 4)$



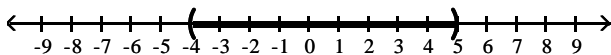
11)  $(-\infty, -1) \cup (1, 3)$



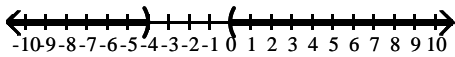
12)  $(-8, 7)$



13)  $(-4, 5)$



14)  $(-\infty, -4) \text{ or } (0, \infty)$



15)  $(x - 2)^2 + (y + 3)^2 = 36$

16)  $(x - 9)^2 + y^2 = 16$

17)  $(x - 4)^2 + (y - 6)^2 = 14$

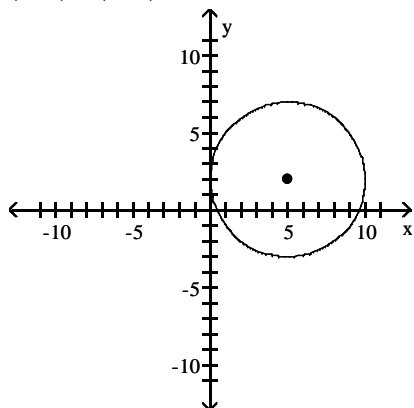
18)  $(h, k) = (-10, 8); r = 9$

19)  $(h, k) = (0, -10); r = 10$

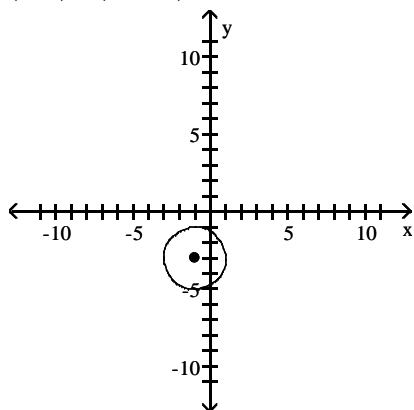
Answer Key

Testname: 13SPR\_CH1-3\_MATH1\_PRACTICE

20)  $(h, k) = (5, 2); r = 5$



21)  $(h, k) = (-1, -3); r = 2$



22)  $(h, k) = (9, -9); r = 5$

23)  $(h, k) = (-1, 7); r = 4$

24)  $(h, k) = (-1, -5); r = 7$