Advanced Math **Quiz 2.1 & 2.3 Review** **Name**

DISTANCE FORMULA:

MIDPOINT FORMULA:

Find the <u>distance</u> between the set of points

1. $(-3, 4)$ and $(7, 2)$

2. $(-2, -6)$ and $(3, -4)$

1.)_____

2.)_____

Find the <u>midpoint</u> between the set of points

3. $(-3, 4)$ and $(7, 2)$

4. $(4, -2)$ and $(7, 2)$

3.)_____

4.)_____

5. $(x, -2x)$ and $(5x,\ 4x)$

6. $(3x,\ 4x)$ and $(-6x,\ 9x)$

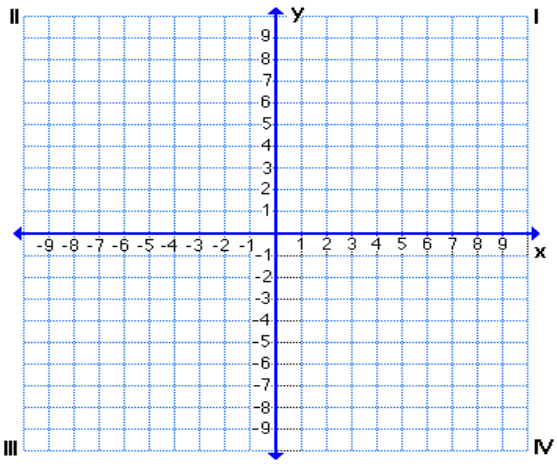
5.)_____

6.)_____

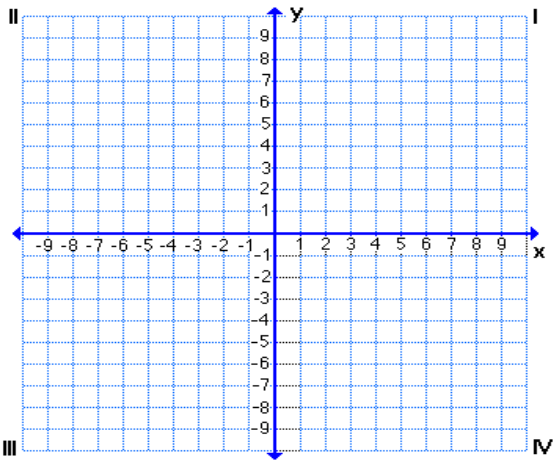
SLOPE INTERCEPT FORM:

Graph the linear function using the slope and y-intercept.

7. $y = -\frac{2}{3}x + 5$ m =_____ b = _____

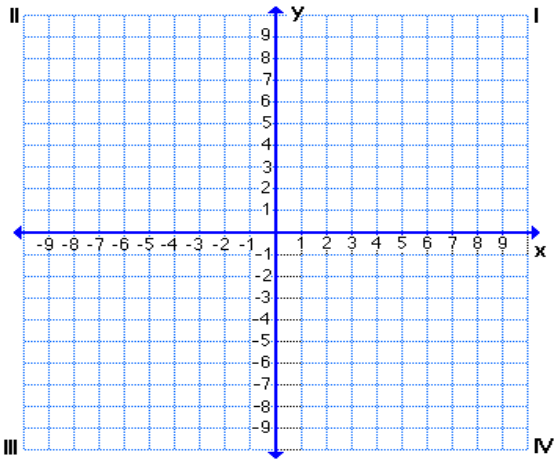


8. $\frac{1}{2}y = x - 3$ m =_____ b = _____

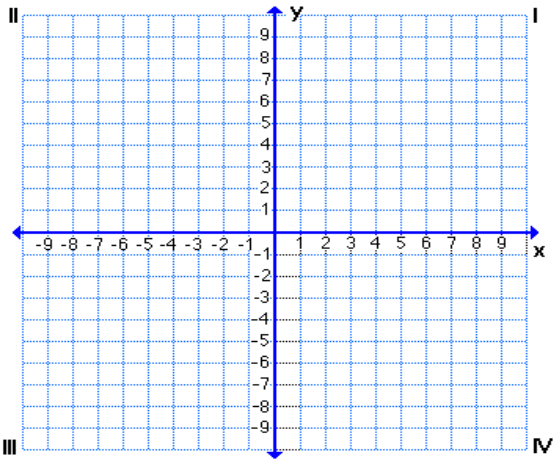


Graph the linear function using the slope and y-intercept.

9. $3x + 4y = 16$ m =_____ b = _____



10. $2x - 3y = 9$ m =_____ b = _____



Find the slope of the line through the given points.

11. $(3,\ -7),\ (-4,\ 10)$

12. $(-2,\ -5),\ (4,\ -6)$

11.)_____

12.)_____

Find the equation of the indicated line in slope-intercept form.

13. y-intercept = $(0,\ -4)$, slope = $\frac{2}{3}$

14. y-intercept = $(0,\ 2)$, slope = 5

13.)_____

14.)_____

15. Through $(4,\ -6)$, slope = $\frac{1}{2}$

16. Through $(-5,\ -1)$, slope = -3

15.)_____

16.)_____

17. Through $(5,\ -6)$ and $(2,\ -8)$

18. Through $(-5,\ 6)$ and $(-3,\ -4)$

17.)_____

18.)_____

Find the equation of the line, in slope-intercept form, that satisfies the given conditions.

19. The graph is parallel to the graph of $y = -x + 1$ and passes through the point whose coordinates are $(-2,\ 4)$. **19**.)_____

20. The graph is parallel to the graph of $y = \frac{2}{3}x - 1$ and passes through the point whose coordinates are $(-3,\ -5)$. **20**.)_____

21. The graph is parallel to the graph of $x + 3y = 4$ and passes through the point whose coordinates are $(-3,\ -1)$. **21**.)_____

22. The graph is perpendicular to the graph of $y = -x + 3$ and passes through the point whose coordinates are $(-5,\ 2)$.

22.)_____

23. The graph is perpendicular to the graph of $3x - 2y = 5$ and passes through the point whose coordinates are $(-3,\ 4)$. **23**.)_____

24. The graph is perpendicular to the graph of $5x - y = 2$ and passes through the point whose coordinates are $(10,\ -2)$. **24**.)_____

EQUATION FOR A CIRCLE:

Determine the <u>center</u> and <u>radius</u> of the circle with the given equation.

25. $x^2 + y^2 = 81$

26. $x^2 + y^2 = 48$

25. Center:_____

25. Radius:_____

26. Center:_____

26. Radius:_____

27. $(x-3)^2 + (y+5)^2 = 24$

28. $(x+8)^2 + (y-9)^2 = 27$

27. Center:_____

27. Radius:_____

28. Center:_____

28. Radius:_____

Find an equation of a circle that satisfies the given conditions. Write your answer in standard form.

29. Center $(-3,\ 2)$ and radius 6

30. Center $(4,\ -6)$ and radius $\sqrt{7}$

29.)_____

30.)_____

31. Center $(0,\ 0)$, passing through $(3,\ 4)$

31.)_____

32. Center $(1, -5)$, passing through $(-2,\ 4)$

32.)_____

ANSWERS: 2.1 & 2.3 **Check Graphs In Class or Online**

1. $2\sqrt{26}$ **2**. $\sqrt{29}$ **3**. $(2,\ 3)$ **4**. $\left(\frac{11}{2},\ 0\right)$

5. $(3x,\ x)$ **6**. $\left(\frac{-3x}{2},\ \frac{13x}{2}\right)$

7. m: $-\frac{2}{3}$; b: 5 or $(0,\ 5)$ **8**. m: 2; b: -6 or $(0,\ -6)$

9. m: $-\frac{3}{4}$; b: 4 or $(0,\ 4)$ **10**. m: $\frac{2}{3}$; b: -3 or $(0,-3)$

11. $-\frac{17}{7}$ **12**. $-\frac{1}{6}$ **13**. $y=\frac{2}{3}x-4$ **14**. $y=\ 5x+2$

15. $y=\frac{1}{2}x-8$ **16**. $y=\ -3x-16$ **17**. $y=\frac{2}{3}x-\frac{28}{3}$ **18**. $y=\ -5x-19$

19. $y=\ -x+2$ **20**. $y=\frac{2}{3}x-3$ **21**. $y=-\frac{1}{3}x-2$ **22**. $y=\ x+7$

23. $y=-\frac{2}{3}x+2$ **24**. $y=-\frac{1}{5}x$

25. Center : $(0,\ 0)$ Radius : 9 **26**. Center : $(0,\ 0)$ Radius : $4\sqrt{3}$

27. Center : $(3,-5)$ Radius : $2\sqrt{6}$ **28**. Center : $(-8,\ 9)$ Radius : $3\sqrt{3}$

29. $(x+3)^2\ +\ (y-2)^2=36$ **30**. $(x-4)^2\ +\ (y+6)^2=7$

31. $x^2+\ y^2=25$ **32**. $(x-1)^2\ +\ (y+5)^2=90$