

Name _____ Hour _____

CHAPTER 6

PRACTICE QUIZZES

SYSTEMS OF EQUATIONS AND INEQUALITIES

Chapter 6 Practice Quizzes

All work must be done neatly in this packet. It will be turned in at the end of the chapter. If you lose your packet, you must re-do all the work.

Practice Quiz Concept 1

Find the slope of each given equation. Then find the slope that is parallel and the slope that is perpendicular.

		#	m	\parallel m	\perp m		#	m	\parallel m	\perp m
1) $y = -1$	15) $y = x - 1$	1					15			
2) $y = x$	16) $y = -x + 1$	2					16			
3) $y = \frac{7}{3}x - 4$	17) $y = -\frac{5}{4}x - 4$	3					17			
4) $y = \frac{1}{2}x - 4$	18) $y = \frac{2}{5}x - 2$	4					18			
5) $y = \frac{1}{5}x - 2$	19) $y = \frac{1}{5}x + 2$	5					19			
6) $y = -x - 3$	20) $y = -\frac{3}{2}x - 3$	6					20			
7) $y = \frac{1}{2}x + 1$	21) $y = -2x + 3$	7					21			
8) $y = 0$	22) $y = x + 5$	8					22			
9) $3x + y = 4$	23) $y = \frac{1}{5}x - 3$	*9					23			
10) $x + y = 1$	24) $y = \frac{1}{2}x - 5$	*10					24			
11) $x - 5y = -15$	25) $y = -x + 4$	*11					25			
12) $4x - y = -3$	26) $y = \frac{5}{4}x + 5$	*12					26			
13) $y = -\frac{5}{3}x + 3$	27) $y = -2x + 1$	13					27			
14) $y = \frac{5}{2}x - 2$	28) $y = \frac{1}{2}x$	14					28			
* Work required below for #9-12.										

9)

10)

11)

12)

Practice Quiz Concept 2

Identify if the lines are parallel, perpendicular, or neither.

$$29) \quad y = \frac{1}{2}x - 4$$

$$y = -2x + 1$$

$$30) \quad y = \frac{1}{3}x - 4$$

$$y = -\frac{1}{3}x - 2$$

$$31) \quad y = -x - 1$$

$$y = x - 3$$

$$32) \quad y = -3x + 4$$

$$y = -3x + 3$$

$$33) \quad 3x + 2y = -2$$

$$3x + 2y = 2$$

$$34) \quad x + 3y = 12$$

$$4x - 3y = 3$$

$$35) \quad 5x + 4y = 12$$

$$5x + 4y = 4$$

$$36) \quad 5x - y = -1$$

$$x - y = 3$$

Practice Quiz Concept 3

Write the slope-intercept form of the equation of the line described.

$$37) \quad \text{through } (3, -3); \text{ parallel to } y = -\frac{5}{3}x - 2$$

$$38) \quad \text{through } (-3, -3); \text{ parallel to } y = \frac{3}{2}x - 4$$

$$39) \quad \text{through } (-2, 5); \text{ parallel to } y = -\frac{5}{2}x - 3$$

$$40) \quad \text{through } (-3, -3); \text{ parallel to } x = 0$$

41) through $(-3, 5)$; parallel to $y = x - 4$

42) through $(2, -2)$; parallel to $y = -x - 3$

43) through $(5, 3)$; perp to $y = -\frac{5}{3}x + 4$

44) through $(-3, 2)$; perp to $y = -3x - 5$

45) through $(-4, 0)$; perp to $y = x + 4$

46) through $(5, -5)$; perp to $x = 0$

47) through $(-4, 3)$; perp to $y = \frac{6}{7}x + 4$

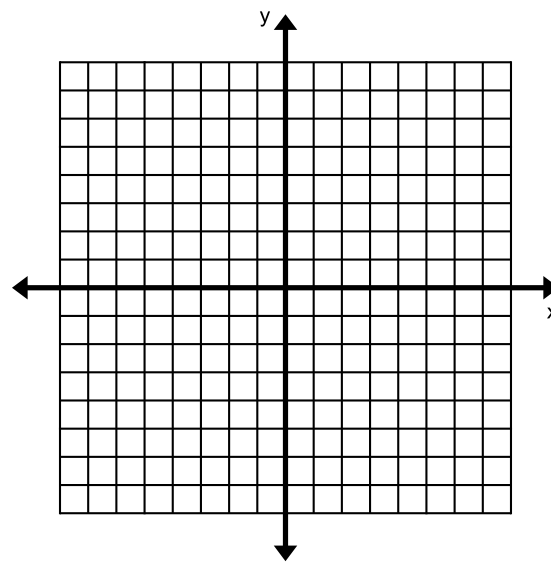
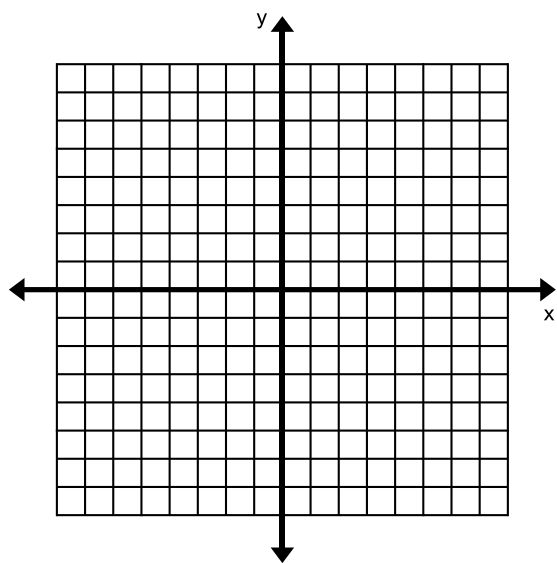
48) through $(-4, -1)$; perp to $y = x - 5$

Practice Quiz Concept 4

Solve each system by graphing.

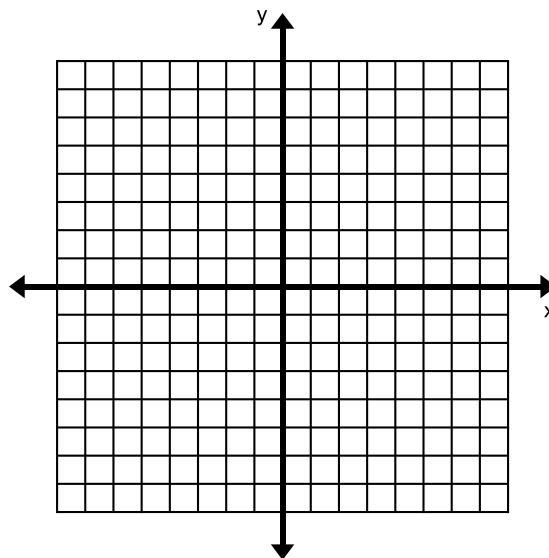
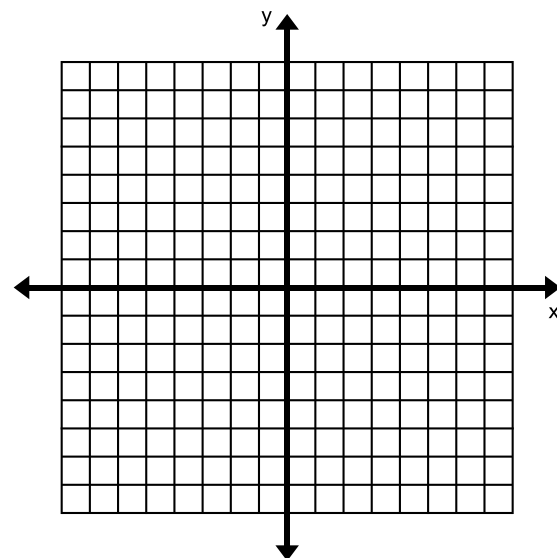
49)
$$\begin{cases} y = -\frac{1}{2}x + 2 \\ y = -3x - 3 \end{cases}$$

50)
$$\begin{cases} y = -6x + 2 \\ y = -x - 3 \end{cases}$$

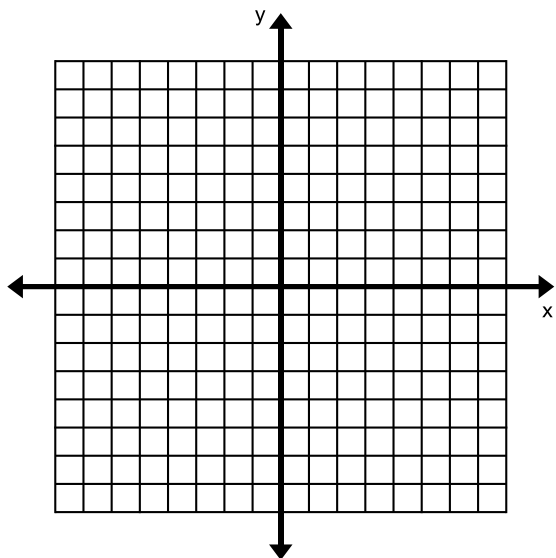


51)
$$\begin{cases} y = -\frac{1}{2}x + 4 \\ y = 3x - 3 \end{cases}$$

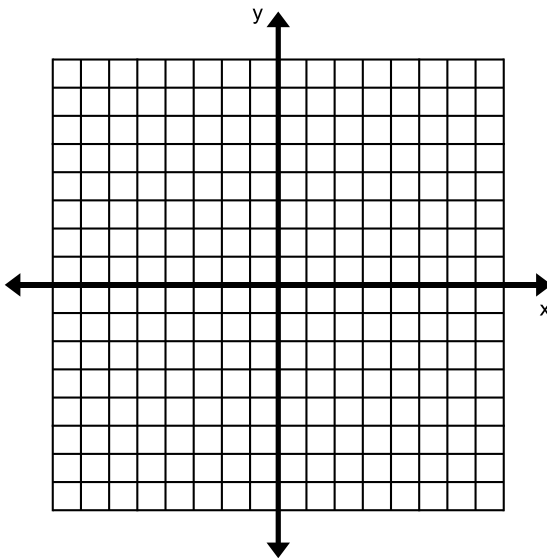
52)
$$\begin{cases} y = -2x - 2 \\ y = -\frac{1}{3}x + 3 \end{cases}$$



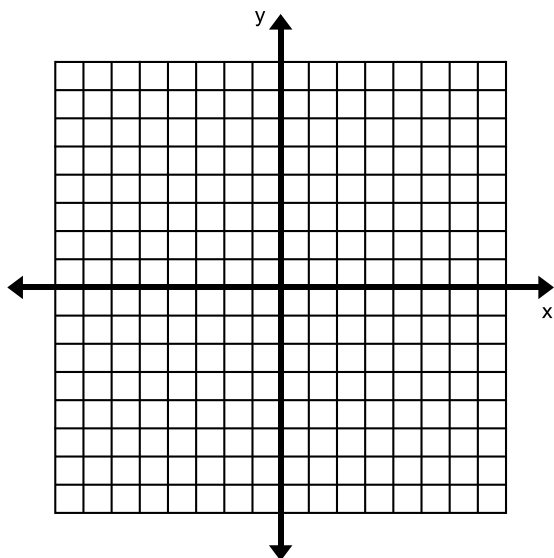
53)
$$\begin{cases} 5x - y = -1 \\ 5x - y = 1 \end{cases}$$



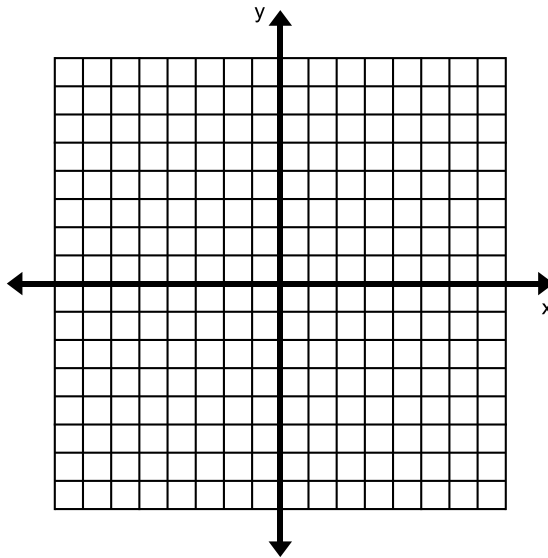
54)
$$\begin{cases} 2x - y = 2 \\ x - 2y = -2 \end{cases}$$



55)
$$\begin{cases} x - 2y = 8 \\ 3x + y = 3 \end{cases}$$



56)
$$\begin{cases} x - 4y = 12 \\ x + y = 2 \end{cases}$$



Practice Quiz Concept 5

Solve each system by substitution.

57)
$$\begin{cases} 12x - 3y = -3 \\ y = 4x + 1 \end{cases}$$

58)
$$\begin{cases} -4x - y = -9 \\ y = x - 6 \end{cases}$$

59)
$$\begin{cases} y = -4x - 6 \\ -4x - 2y = 8 \end{cases}$$

60)
$$\begin{cases} -9x + 3y = 15 \\ y = 3x + 5 \end{cases}$$

$$61) \begin{cases} y = -4x + 4 \\ 12 + 3y = -2 \end{cases}$$

$$62) \begin{cases} -2x - y = -3 \\ y = 2x - 1 \end{cases}$$

$$63) \begin{cases} y = -4x + 9 \\ -3x + 3y = -3 \end{cases}$$

$$64) \begin{cases} y = 3x + 4 \\ 6x - 2y = 4 \end{cases}$$

Practice Quiz Concept 6**Ways to Solve Systems****Graphing**

Works best if...

Steps:

Substitution

Works best if...

Steps:

Elimination

Works best if...

Steps:

Solve each system by elimination.

65)
$$\begin{cases} 3x + 5y = 8 \\ x - 5y = 16 \end{cases}$$

66)
$$\begin{cases} 5x - 3y = -4 \\ -3x + 3y = 6 \end{cases}$$

67)
$$\begin{cases} 5x + 2y = -12 \\ 3x + 2y = -12 \end{cases}$$

68)
$$\begin{cases} 6x + 6y = 6 \\ 6x - 3y = 6 \end{cases}$$

$$69) \begin{cases} -5x + 4y = -13 \\ -10x + 8y = -16 \end{cases}$$

$$70) \begin{cases} 4x + 6y = -6 \\ -8x - y = 1 \end{cases}$$

$$71) \begin{cases} 6x - 4y = 0 \\ -12x + 8y = 0 \end{cases}$$

$$72) \begin{cases} 12x + 10y = 16 \\ -6x - 5y = -8 \end{cases}$$

$$73) \begin{cases} 6x - 8y = -14 \\ -9x + 12y = 18 \end{cases}$$

$$74) \begin{cases} 4x - 5y = 4 \\ 6x - 3y = 6 \end{cases}$$

$$75) \begin{cases} 3x - 5y = 1 \\ 4x - 2y = -8 \end{cases}$$

$$76) \begin{cases} 20x - 25y = 10 \\ 12x - 15y = 9 \end{cases}$$

Practice Quiz Concept 7

Sketch the graph of each linear inequality.

77) $y > -7x + 3$

solid or dashed

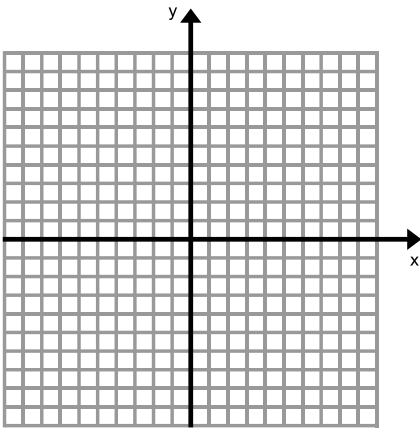
type of line: _____

slope: _____ rise: _____ run: _____

y-intercept: _____

test point #1: _____

test point #2: _____



78) $y < \frac{3}{5}x - 3$

solid or dashed

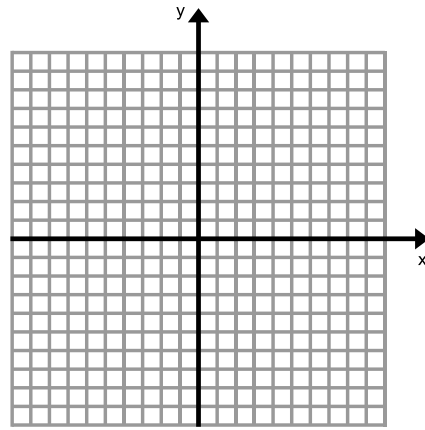
type of line: _____

slope: _____ rise: _____ run: _____

y-intercept: _____

test point #1: _____

test point #2: _____



79) $y \geq \frac{8}{3}x + 4$

solid or dashed

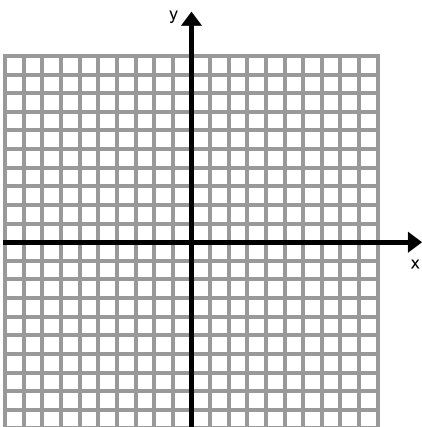
type of line: _____

slope: _____ rise: _____ run: _____

y-intercept: _____

test point #1: _____

test point #2: _____



80) $y \leq \frac{3}{5}x - 5$

solid or dashed

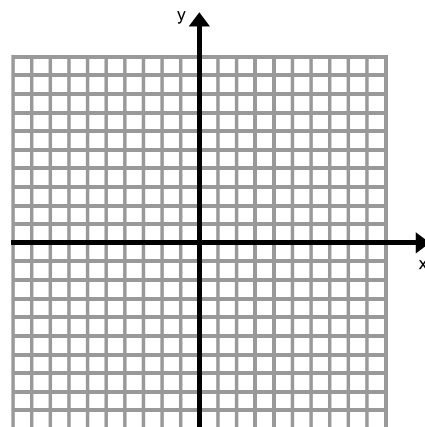
type of line: _____

slope: _____ rise: _____ run: _____

y-intercept: _____

test point #1: _____

test point #2: _____



81) $y > 1$

solid or dashed

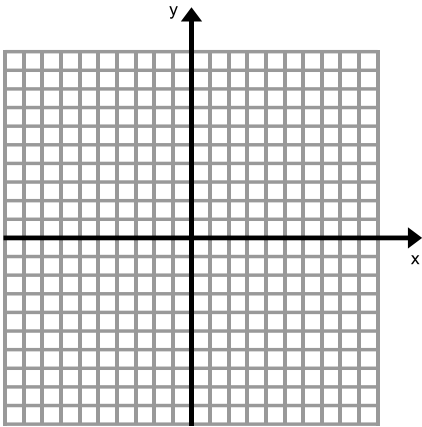
type of line: _____

slope: _____ rise: _____ run: _____

y-intercept: _____

test point #1:

test point #2:



82) $5x - 3y < 15$

solid or dashed

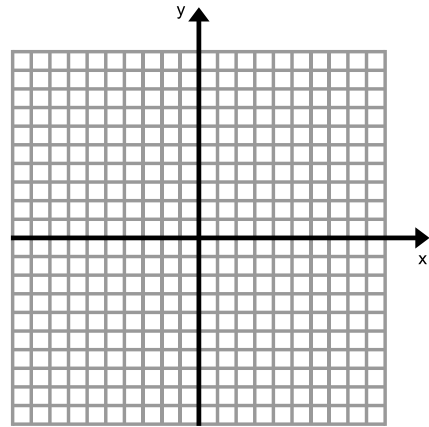
type of line: _____

slope: _____ rise: _____ run: _____

y-intercept: _____

test point #1:

test point #2:



83) $x - y \geq -3$

solid or dashed

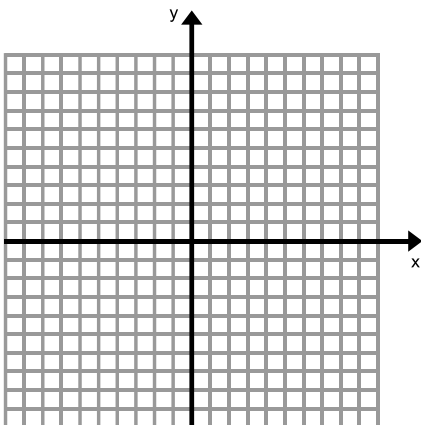
type of line: _____

slope: _____ rise: _____ run: _____

y-intercept: _____

test point #1:

test point #2:



84) $x + y > 3$

solid or dashed

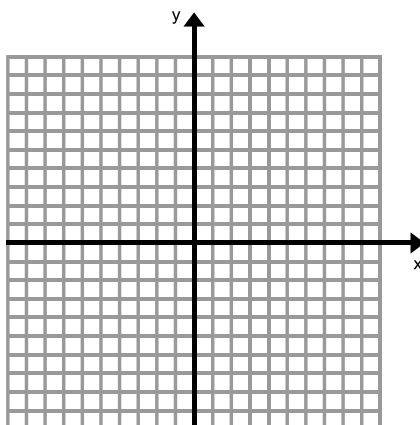
type of line: _____

slope: _____ rise: _____ run: _____

y-intercept: _____

test point #1:

test point #2:

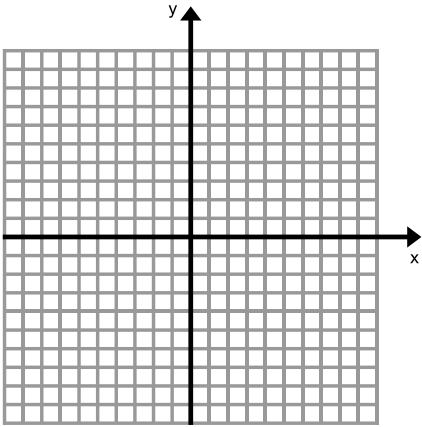


Practice Quiz Concept 8

Sketch the graph of each system of linear inequalities.

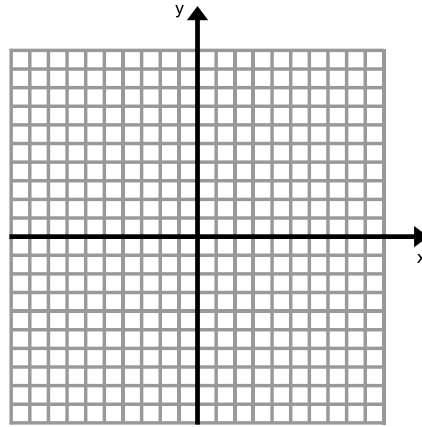
$$85) \begin{cases} y < -\frac{1}{3}x - 1 \\ y \leq \frac{1}{3}x - 3 \end{cases}$$

solid or dashed _____ y-intercept: _____
 type of line: _____
 slope: _____ rise: _____ run: _____
 test point #1: _____ test point #2: _____



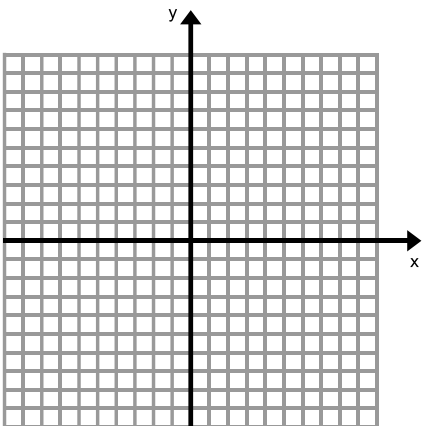
$$86) \begin{cases} y < \frac{3}{2}x - 2 \\ y \geq -\frac{1}{2}x + 2 \end{cases}$$

solid or dashed _____ y-intercept: _____
 type of line: _____
 slope: _____ rise: _____ run: _____
 test point #1: _____ test point #2: _____



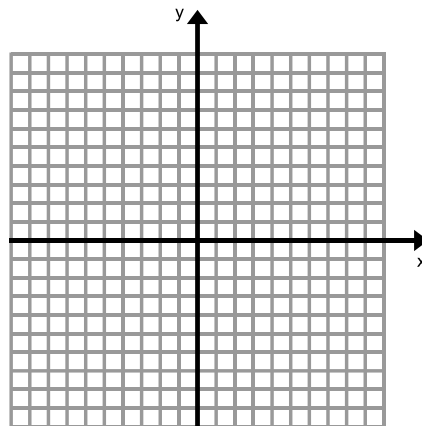
$$87) \begin{cases} y \leq \frac{4}{3}x + 2 \\ y > -\frac{1}{3}x - 3 \end{cases}$$

solid or dashed _____ y-intercept: _____
 type of line: _____
 slope: _____ rise: _____ run: _____
 test point #1: _____ test point #2: _____



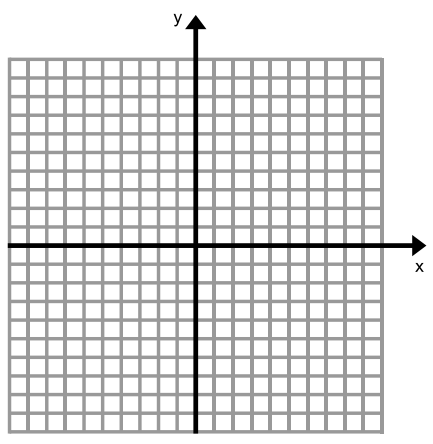
$$88) \begin{cases} y > 4x - 2 \\ y \geq x + 1 \end{cases}$$

solid or dashed _____ y-intercept: _____
 type of line: _____
 slope: _____ rise: _____ run: _____
 test point #1: _____ test point #2: _____



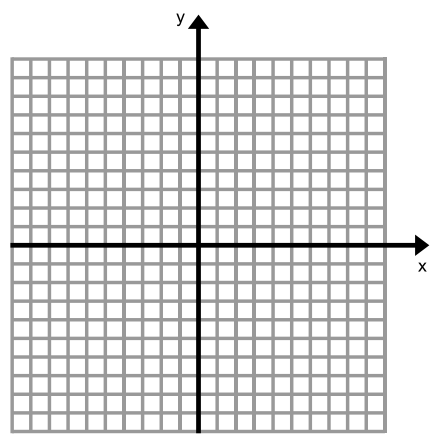
89) $\begin{cases} x + 2y > -2 \\ x < 2 \end{cases}$

solid or dashed y-intercept: _____
type of line: _____
slope: _____ rise: _____ run: _____
test point #1: _____ test point #2: _____



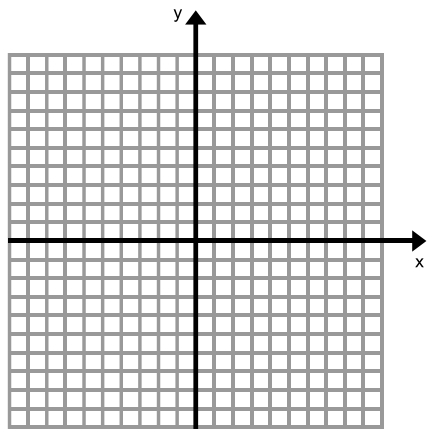
90) $\begin{cases} x < 3 \\ x - 3y \geq -6 \end{cases}$

solid or dashed y-intercept: _____
type of line: _____
slope: _____ rise: _____ run: _____
test point #1: _____ test point #2: _____



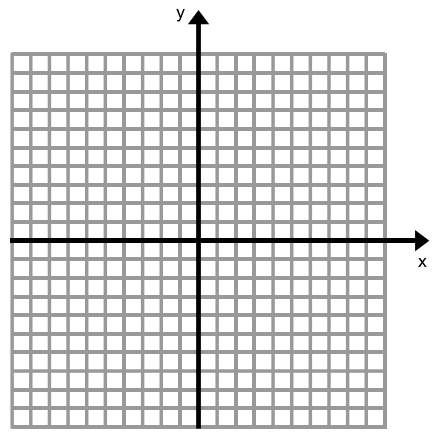
91) $\begin{cases} x - 3y < 9 \\ x + 3y \geq -3 \end{cases}$

solid or dashed y-intercept: _____
type of line: _____
slope: _____ rise: _____ run: _____
test point #1: _____ test point #2: _____



92) $\begin{cases} x - y \geq 1 \\ x + y \geq 3 \end{cases}$

solid or dashed y-intercept: _____
type of line: _____
slope: _____ rise: _____ run: _____
test point #1: _____ test point #2: _____



PRACTICE TEST Chapter 6**CONCEPT 1 (part 1)** Find the slope of a line parallel to each given line.

1) $y = -\frac{8}{3}x - 5$

2) $x + 2y = -8$

CONCEPT 1 (part 2) Find the slope of a line perpendicular to each given line.

3) $y = \frac{1}{2}x - 2$

4) $y = -\frac{1}{4}x - 4$

5) $x = 0$

6) $y = \frac{5}{3}x - 5$

CONCEPT 2 Identify if the lines are parallel, perpendicular, or neither. Explain how you know.

7) $\begin{cases} y = \frac{1}{4}x + 2 \\ y = x - 1 \end{cases}$

8) $\begin{cases} y = 3x + 2 \\ y = 3x - 4 \end{cases}$

9) $\begin{cases} y = x - 3 \\ y = -x + 1 \end{cases}$

10) $\begin{cases} x - y = 3 \\ x + 2y = 6 \end{cases}$

CONCEPT 3 Write the slope-intercept form of the equation of the line described.

11) through $(-4, -2)$, parallel to $y = x + 4$

12) through $(-2, 4)$, parallel to $y = -4x$

13) through $(2, 5)$, perp to $y = -\frac{1}{3}x + 3$

14) through $(1, -1)$, perp to $y = -\frac{1}{2}x - 1$

CONCEPT 4 Solve each system by graphing.

15) $\begin{cases} y = -x - 1 \\ y = -x + 4 \end{cases}$

16) $\begin{cases} 2x + y = -2 \\ 2x + 3y = 6 \end{cases}$

CONCEPT 5 Solve each system by substitution.

$$17) \begin{cases} -4x + 4y = 4 \\ y = 3x + 9 \end{cases}$$

$$18) \begin{cases} -2x + 2y = 3 \\ y = x + 2 \end{cases}$$

$$19) \begin{cases} y = 3x - 1 \\ -9x + 3y = -3 \end{cases}$$

CONCEPT 6 Solve each system by elimination.

$$20) \begin{cases} 5x + y = 2 \\ -5x - y = -2 \end{cases}$$

$$21) \begin{cases} -6x + 2y = 12 \\ -6x + 2y = 18 \end{cases}$$

$$22) \begin{cases} -4x + 3y = -12 \\ -2x + 6y = -6 \end{cases}$$

$$23) \begin{cases} 5x + 2y = -14 \\ 6x - 3y = -6 \end{cases}$$

CONCEPT 7 Sketch the graph of each linear inequality.

24) $y < x + 4$

solid or dashed

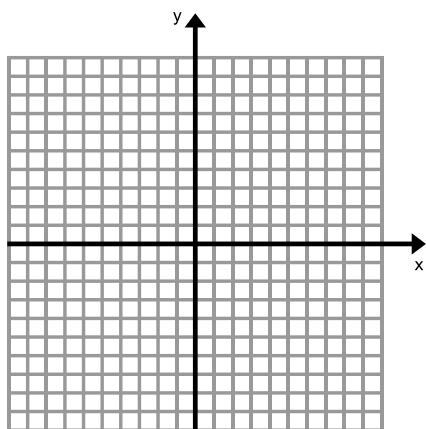
type of line: _____

slope: _____ rise: _____ run: _____

y-intercept: _____

test point #1: _____

test point #2: _____



25) $3x - 2y > -6$

solid or dashed

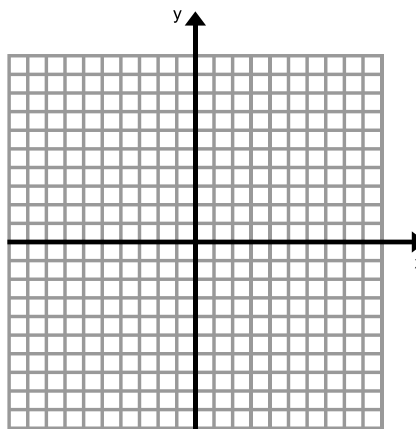
type of line: _____

slope: _____ rise: _____ run: _____

y-intercept: _____

test point #1: _____

test point #2: _____

**CONCEPT 8 Sketch the solution to each system of inequalities.**

26) $\begin{cases} y < x + 1 \\ x \leq -2 \end{cases}$

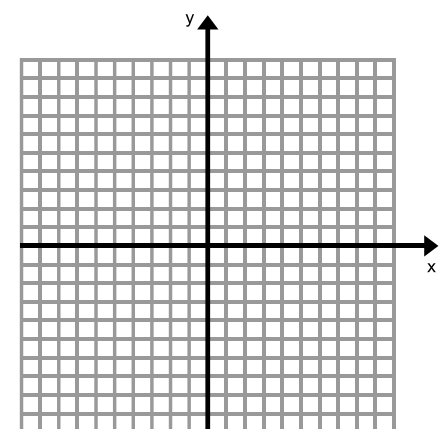
solid or dashed y-intercept: _____

type of line: _____

slope: _____ rise: _____ run: _____

test point #1: _____

test point #2: _____



27) $\begin{cases} y \leq 3 \\ x - 3y < -6 \end{cases}$

solid or dashed y-intercept: _____

type of line: _____

slope: _____ rise: _____ run: _____

test point #1: _____

test point #2: _____

