

Algebra I

Review for Quiz #2

Standard Form and Point-Slope Form (5.4)

Horizontal and Vertical Lines (5.5)

NAME: _____

DATE: _____ HOUR: _____

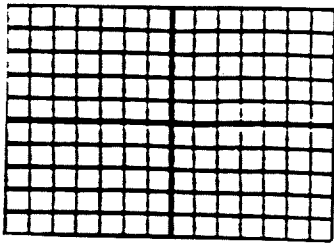
Part I. Standard Form

A. Using the standard form of a linear equation, find the intercepts, calculate the slope, and graph each line.

1. $2x - 4y = 8$

x	y
0	0

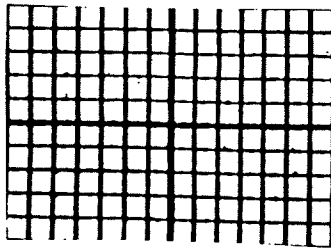
$m = \underline{\hspace{2cm}} =$



2. $x + 4y = 4$

x	y
0	0

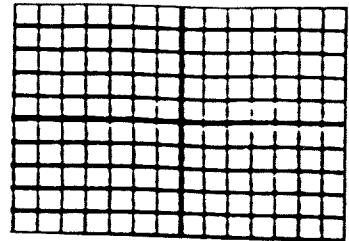
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3. $10x + 10y = 30$

x	y
0	0

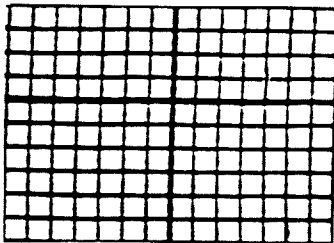
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4. $2x - 5y = -10$

x	y
0	0

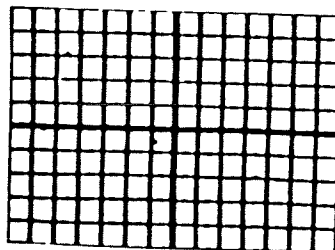
$m = \underline{\hspace{2cm}} =$



5. $8x + 4y = 16$

x	y
0	0

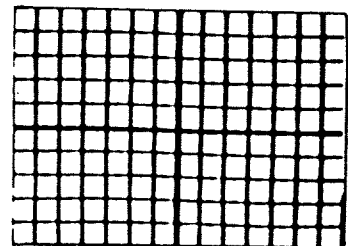
$m = \underline{\hspace{2cm}} =$



6. $8x + 16y = -16$

x	y
0	0

$m = \underline{\hspace{2cm}} =$



B. Using the standard form of a linear equation, find the intercepts.

1. $-7x + 8y = -56$

x	y
0	0

2. $5x + 6y = 30$

x	y
0	0

3. $9x + 6y = 36$

x	y
0	0

Part II. Point-Slope Form

A. Definitions

1. The **point-slope** form of a linear equation is _____.
2. The slope in the equation is _____ and (x_1, y_1) represents a _____ on the line.

B. Write a **point-slope** form of a linear equation with the given slope and point.

1. slope = 2; (3, 6) _____
2. slope = -4; (1, -3) _____
3. slope = 7; (-4, -2) _____
4. slope = $-\frac{1}{4}$; (8, 16) _____

C. Write a **point-slope** form of a linear equation given two points on the line (*use the first point in the equation).

1. (-1, 6) and (-4, 2) _____
2. (7, 3) and (-3, 6) _____
3. (-1, 5) and (-3, -4) _____
4. (8, 9) and (-4, 2) _____

D. Identify the **slope** and a **point** on the line given the **point-slope** form of a linear equation

1. $y - 5 = 2(x - 7)$ slope = _____ point on the line _____
2. $y - 1 = 5(x - 9)$ slope = _____ point on the line _____
3. $y + 3 = -4(x + 5)$ slope = _____ point on the line _____
4. $y - 5 = 7(x + 9)$ slope = _____ point on the line _____
5. $y + 6 = 3(x + 7)$ slope = _____ point on the line _____
6. $y + 5 = \frac{1}{4}(x - 1)$ slope = _____ point on the line _____

Part III. Horizontal and Vertical Lines

A. Determine if each line is horizontal, vertical or neither.

1. $y = -52$

2. $x = 35$

3. $y = 47$

4. $y = 2x + 5$

5. $x = -43$

6. $x + y = 4$

B. General Forms

1. The **general form** of a horizontal line is _____.

2. The **general form** of a vertical line is _____.

C. What are the **coordinates** of the point where each line **crosses the y-axis** (the y-intercept)?

1. $y = 2$

2. $y = -1$

3. $y = \frac{1}{2}$

4. $y = 10$

D. What are the **coordinates** of the point where each line **crosses the x-axis** (the x-intercept)?

11. $x = 11$

12. $x = 8$

13. $x = \frac{3}{4}$

14. $x = -7$

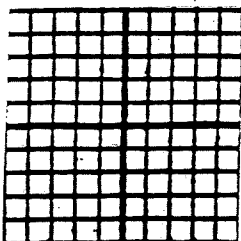
E. Slopes

1. The slope of a **horizontal line** is _____.

2. The slope of a **vertical line** is _____ slope, undefined or _____.

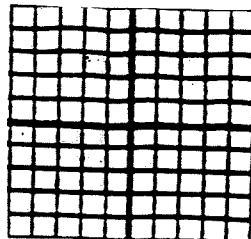
F. Graph and Identify the Slope

1. $x = 2$



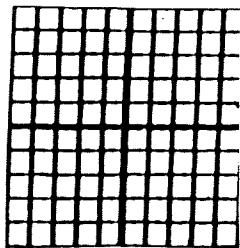
$m =$ _____

2. $x = -1$



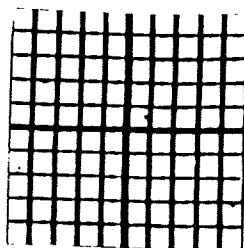
$m =$ _____

3. $y = -2$



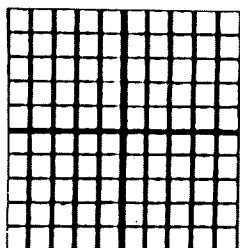
$m =$ _____

4. $y = 3$



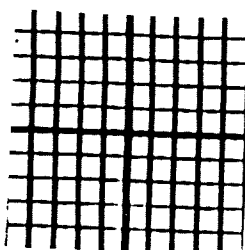
$m =$ _____

5. $x = -2$



$m =$ _____

6. $y = 1.5$



$m =$ _____

G. Writing Equations

1. Write an equation for a vertical line with the intercept $(4, 0)$. $x =$ _____
2. Write an equation for a horizontal line with the intercept $(0, -7)$. $y =$ _____
3. Write an equation for a vertical line through the point $(2, 7)$. $x =$ _____
4. Write an equation for a horizontal line through the point $(3, -6)$. $y =$ _____
5. Write an equation for a vertical line through the point $(1, 5)$. _____
6. Write an equation for a horizontal line through the point $(9, 3)$. _____
7. Write an equation for a vertical line through the origin. _____
8. Write an equation for a horizontal line through the origin. _____

H. Identify the following **standard form** equations as horizontal, vertical, or neither.

- | | |
|-------------------------|------------------------|
| 1. $0x + 1y = 8$ _____ | 4. $1x + 0y = 5$ _____ |
| 2. $2x + 5y = 10$ _____ | 5. $0x + 2y = 4$ _____ |
| 3. $2x + 0y = -4$ _____ | 6. $8x + 8y = 8$ _____ |