Algebra 1 CP 1718 Name: KEY

QUIZ: Writing Equations Date: _____ Period: _____

I. Write the **Slope-Intercept Form** of the equation of each line described. Show all work.

1.....a line that contains $(1,6)$ with slope $\frac{7}{3}$ (x y; m)

$6 = \frac{7}{3}(1) + b$

$6 = \frac{7}{3} + b$

$-\frac{7}{3} \quad -\frac{7}{3}$

$\frac{11}{3} = b = 3\frac{2}{3}$

$\frac{6\times3}{1\times3} = \frac{18}{3}$

$\frac{18}{3} - \frac{7}{3} = \frac{18-7}{3} = \frac{11}{3}$

2 - slope-intercept form
2 - slope
4 - y-intercept

$y = \frac{7}{3}x + \frac{11}{3}$

OR

1. $y = \frac{7}{3}x + 3\frac{2}{3}$ **(8-Points)**

2.....a line that contains $(4,-2)$ and $(12,-8)$ (x_1, y_1; x_2, y_2)

$m = \frac{-8+(+2)}{12-4} = \frac{-6\div2}{8\div2} = \frac{-3}{4}$

$-2 = -\frac{3}{4}(4) + b$

$-2 = -\frac{12}{4} + b$

$-2 = -3 + b$

$+3 \quad +3$

$1 = b$

OR

$-8 = -\frac{3}{4}(12) + b$

$-8 = -\frac{36}{4} + b$

$-8 = -9 + b$

$+9 \quad +9$

$1 = b$

2 - slope intercept form
4 - slope
4 - y-intercept

2. $y = -\frac{3}{4}x + 1$ **(10-Points)**

3.....a line that is parallel to the graph of $y - 3 = \frac{7}{4}(x+5)$ and whose y- intercept is 8.

$m = \frac{7}{4}$

OR

$y - 3 = \frac{7}{4}x + \frac{35}{4}$

$+3 \quad +3$

$y = \frac{7}{4}x + \frac{47}{4}$

m

$\frac{3\times4}{1\times4} = \frac{12}{4}$

$\frac{35}{4} + \frac{12}{4} = \frac{47}{4}$

$b = 8$

2 - slope intercept form
3 - slope
3 - y-intercept

3. $y = \frac{7}{4}x + 8$ **(8-Points)**

4.....a line that contains $(6,-5)$ and is parallel to the graph of $5x - 2y = -20$ (x y)

$5x - 2y = -20$

$-5x \quad -5x$

$\frac{-2y}{-2} = \frac{-5x}{-2} \frac{-20}{-2}$

$y = \frac{5}{2}x + 10$

$m = \frac{5}{2}$

$-5 = \frac{5}{2}(6) + b$

$-5 = \frac{30}{2} + b$

$-5 = 15 + b$

$-15 \quad -15$

$-20 = b$

1 - slope intercept form
4 - slope
5 - y-intercept

4. $y = \frac{5}{2}x - 20$ **(10-Points)**

5.....the line that is perpendicular to the graph of $5x - y = -9$ and passes through $(-8, -3)$.

1 - slope intercept form
5 - slope
4 - y-intercept

$5x - y = -9$
$-5x \quad -5x$
$\frac{-y}{-1} = \frac{-5x}{-1} - \frac{9}{-1}$
$y = 5x + 9$

$m = -\frac{1}{5}$

$-3 = -\frac{1}{5}(-8) + b$
$-3 = \frac{8}{5} + b$
$-\frac{8}{5} \quad -\frac{8}{5}$
$-\frac{23}{5} = b$
$-4\frac{3}{5} = b$

$\frac{-3 \times 5}{1 \times 5} = \frac{-15}{5}$
$\frac{-15 - 8}{5} = \frac{-23}{5}$

$y = -\frac{1}{5}x - \frac{23}{5}$
OR
5. $y = -\frac{1}{5}x - 4\frac{3}{5}$ **(10-Points)**

6....the line that is perpendicular to the graph of $y = 9x - 5$ and has the same y-intercept as the graph of $8x - 4y = -24$

$m = -\frac{1}{9}$

$8x - 4y = -24$
$-8x \quad -8x$
$\frac{-4y}{-4} = \frac{-8x}{-4} - \frac{24}{-4}$
$y = 2x + 6$
b

OR

$8(0) - 4y = -24$
$\frac{-4y}{-4} = \frac{-24}{-4}$
$y = 6$

1 - Slope-intercept form
4 - Slope
5 - y-intercept

6. $y = -\frac{1}{9}x + 6$ **(10-Points)**

II. REVIEW

7.....a line that contains $(6, -5)$ and is horizontal

$\longleftrightarrow \quad y = \#$

"y" is always that number

$y = -5$

4 points if eq. has 1 variable

7. $y = -5$ **(8-Points)**

8. the **x-intercept and y-intercept** of the graph of $6x - 12y = 48$ **(6-Points)**

$6x - 12(0) = 48$
$\frac{6x}{6} = \frac{48}{6}$
$x = 8$

$6(0) - 12y = 48$
$\frac{-12y}{-12} = \frac{48}{-12}$
$y = -4$

8. x- int $(\underset{2\text{ pts}}{8}, \underset{1\text{ pt}}{0})$; y- int $(\underset{1\text{ pt}}{0}, \underset{2\text{ pts}}{-4})$

9. Name the **point on the line** and **the slope of the graph** of the equation shown below. **(6-Points)**

$y + 4 = -7(x - 2)$
$y_1 \quad m \quad x_1$

9. m = $\underset{2\text{ pts}}{-7}$ point $(2, -4)$ (2 pts, 2 pts)