EMA
Parallel / Perpendicular Lines

Name: ___________________________________
Date: ____________________ **Period:** _________

- ***PARALLEL LINES*** have ***SAME*** slopes.

  Given: Linear equation of $y = -3x - 2$.

  Slope of $y = -3x - 2$ is ____________, therefore parallel slope is____________.

- ***PERPENDICULAR LINES*** have ***OPPOSITE RECIPROCAL (FLIP-FLOP)*** slopes.

  Given: Linear equation of $y = -\frac{1}{4}x + 3$

  Slope of $y = -\frac{1}{4}x + 3$ is____________, therefore perpendicular slope is____________.

State the parallel and perpendicular slope for each given set of points.

1.) $(-3, 5)$ ***and*** $(-6, 7)$

Parallel Slope: _______________

Perpendicular Slope: __________

2.) $(-8, 4)$ ***and*** $(-6, -4)$

Parallel Slope: _______________

Perpendicular Slope: __________

3.) **Write an equation of a line in slope-intercept form that is <u>parallel</u> to the line of $y = \frac{1}{2}x + 6$ and whose y-intercept is -2.**

4.) **Write an equation of a line in slope-intercept form that is <u>parallel</u> to the line of $y = -4x - 9$ and passes through the point $(-2, -4)$.**

5.) **Write an equation of a line in slope-intercept form that is <u>parallel</u> to the line $4x - 6y = 12$ and passes through the point $(6, -3)$.**

6.) **Write an equation of a line in slope-intercept form that is <u>perpendicular</u> to the line $y - 3 = -2(x + 3)$ and passes through the point $(10, -2)$.**

7.) **Write an equation of a line in slope-intercept form that is <u>perpendicular</u> to the line $2x - 3y + 6 = 0$ and passes through the point $(-4, -6)$.**

8.) **Write an equation of a line in slope-intercept form that is <u>perpendicular</u> to the line that contains the points $(6, -2)$ *and* $(4, -8)$ and passes through the point $(-9, 4)$.**

Retro Questions

9.) **Simplify.**

$(2x^{-2}yz^{-3})^{-4}$

10.) **Simplify.**

$12 - 16(4^{-2} \cdot 2^{5}) \div (6 - (-2)) - 8$