**EOC REVIEW – Average Rate of Change, Solve equations graphically**

Standards: A2.F.LE.A – Construct and compare linear, quadratic, and exponential models and solve problems. A2.F.LE.B – Interpret expressions for functions in terms of the situation they model A2.A.CED.A – Create equations that describe numbers or relationships. A2.A.REI.B – Solve equations and inequalities in one variable. A2. REI. D – Represent and solve problems graphically. A2.A.REI.C – Solve systems of equations. A2.N.CN.A – Perform arithmetic operations with complex numbers. A2.A.REI.B – Solve equations and inequalities in one variable

Objectives : Students will be able to determine the average rate of change of functions between two points. Students will be able to solve equations by cross-multiplying and determine the solutions of any equations graphically.

| How do I find the **average rate of change** between two points for any function? (use the points $(x_1, y_1)$ and $(x_2, y_2)$) | How do I determine the solution(s) for a system of equations graphically? Sketch an example.<br><br>Find the solution(s) of<br>$y = 2x + 5$ *and* $y = x + 2$<br><br>TO PUT IN CALCULATOR:<br>MENU 5, F6, F5 | SOLVE: $\frac{x}{2} = \frac{3x+1}{4}$ |
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**Independent Practice** AVERAGE RATE OF CHANGE/SOLVE EQUATIONS GRAPHICALLY assignment. Complete on a separate sheet. Show all work.

1. Which value of x satisfies the equation $\frac{x+23}{x+3} = 5$? $x = 2$

2. What are the solutions of the given system? $y = x^2 + 2$ $x + y = 2$

**SHOW THE WORK OR EXPLAIN HOW YOU GOT YOU ANSWER, DON'T JUST CHOOSE ONE AN ANSWER!**

a. $(3, 5) and\ (2, 0)$ b. $(1, 1) and\ (-2, 4)$ c. $(-3, 5) and\ (2, 0)$ d. $(0, 2) and\ (-1,3)$

3. A system of equations is given: $f(x) = x^2 + 2x - 8$ and $g(x) = -x^2 - 3x + 5$

What are the solutions (values of x) for which $f(x) = g(x)$? $x = -4.1$

$x = 1.59$

4. Choose which answer best matches your answer choice. SHOW YOUR WORK OR EXPLAIN HOW YOU GOT YOUR ANSWER!

Which ordered pair is a solution to the system of equations

$y = x^2 - 6x + 11$

$y = -3x + 9$

a. (1, 6) b. (4, 0) c. (2, 3) d. (1, 0)

5. Choose which answer best matches your answer choice. SHOW YOUR WORK OR EXPLAIN HOW YOU GOT YOUR ANSWER!

The set $\{-5, 2, 4\}$ contains the solution(s) to the following rational equation. $\frac{x+5}{9x-18} = \frac{1}{x-2}$

Which values of the solution set are valid?

a. $-5\ only$ b. $4\ only$ c. $2\ and\ 4$ d. $-5\ and\ 2$

6. A function $f(x) = x + 2$ represents the growth in attendance at an exercise class. A function g(x) is five times $f(x)$. Select ALL functions that represent g(x).

a. $g(x) = x + 7$ b. $g(x) = 5(x + 2)$ c. $g(x) = 5x + 2$

d. $g(x) = 5x + 10$ e. $g(x) = x - 3$