Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Week of Monday, October 29th - Thursday, November 1st: Guided Notes: f(x) = g(x)

**>Monday, October 29th**

Do Now:

1. 3x – 10x + 7x – 15 = 4x – 2 + 8x – 9
2. -(-x – 7) + 3(x – 4) – 2(x – 8) = 2(8-2x) + 1

**>f(x) = g(x)**

* What is f(x) = g(x)?
	+ Well, each of these symbols **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**
* How do I solve an f(x) = g(x) equation?
	+ Set the two equations that we are given **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**, and solve by combining like terms.
* What does my answer tell me?
	+ The answer indicates that when x is a solved value, the equations will be equal to each other.
* What is the real world application of f(x) = g(x)?
	+ Imagine f(x) and g(x) are companies. Each company sells the same product (say CDs), which is represented by x at different prices.
		- f(x) formula for profit: 2x + 3
			* This formula says that this company gets $2 for every shoe lace they sell, plus an additional $3 to cover shipping costs.
		- g(x) formula for profit: 3x – 1
			* This formula says that this company gets $3 for every shoe lace they sell, minus $1 for labor costs.
* To find out how many shoe laces each company will have sold when the two companies have an equal profit, we set the two equations equal to each other.

**Example Problems:**

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|  1) 2x + 3= 3x – 1 How many CDs will the companies have to sell to make an equal profit? |
| 2) Given: f(x) = $\frac{x}{2}$ & g(x) = $\frac{4x-1 }{5}$ If f(x) = g(x), what is the value of x? |
| 3) What is the solution for x in the equation f(x) = g(x), where f(x) = 30 – 0.5x & g(x) = 2x – 15 ?  |
| 4) Given: f(x) 2.6x – 14 & g(x) = 3.8x -17 What is the solution to f(x) = g(x)? |
| 5) Given: f(x) = 1.1x + 2.5 & g(x) = 4(8.3x – 7.1) What is the solution to f(x) = g(x)? |
| 6) Given: f(x) = $\frac{x+3}{2}$ & g(x) = 3.65x + 12 What is the solution to f(x) = g(x)? |
| 7) Given: f(x) = $\frac{2x-1 }{4}$ & g(x) = 20.5x +15 What is the solution to f(x) = g(x)? |
| 8) Given: f(x) = 3(0.9x + 0.3) & g(x) = 4.8x + 28 What is the solution to f(x) = g(x)? |
| 9) Given: f(x) = 6.45x + 7.7 & g(x) = $\frac{x+2}{8}$ What is the solution to f(x) = g(x)? |
| 10) Given: f(x) = 12x + 7.2 & g(x) = 18.5x – 34 What is the solution to f(x) = g(x)? |
| 11) Given: f(x) = $\frac{5x+1}{2}$ & g(x) = 7.25x – 16 What is the solution to f(x) = g(x)? |
| 12) Given: f(x) = 8.2x - 22 & g(x) = 2(1.4x + 7) What is the solution to f(x) = g(x)? |

**>Tuesday, October 30th**

**Do Now:**

1. What is the solution to f(x) = g(x)? f(x) = 2.4 + 0.4x g(x) = 0.28x – 1.2
2. Solve for x.

5 = $\frac{1}{2}$($\frac{5x-8}{4}$)

**>White Board Practice Problems:**

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| 1) What is the solution to f(x) = g(x)? f(x) = 10 g(x) = $\frac{x}{1.5}$ |
| 2) What is the solution to f(x) = g(x)? f(x) = 0.8 g(x) = $\frac{6x-4}{10}$ |
| 3) What is the solution to f(x) = g(x)? f(x) = 30 g(x) = $\frac{x}{3}$ – 12.5 |
| 4) What is the solution to f(x) = g(x)? f(x) = 7x - 44.6 g(x) = 2.7x +13 |
| 5) What is the solution to f(x) = g(x)? f(x) = 2x + 4.5 g(x) = 12.8x +37 |
| 6) What is the solution to f(x) = g(x)? f(x) = 9x + 2 g(x) = 7x + 20 |
| 7) What is the solution to f(x) = g(x)? f(x) = 4(5.8x – 0.9) g(x) = $\frac{x}{3}$ – 21  |
| 8) What is the solution to f(x) = g(x)? f(x) = 11x + 55 g(x) = 5(2.2x – 0.8) |
| 9) What is the solution to f(x) = g(x)? f(x) = $\frac{x}{6}$ + 10.4 g(x) = 5(9.1x – 8.2) |
| 10) What is the solution to f(x) = g(x)? f(x) = 4.2 + 5.1x g(x) = 0.35x – 2.6 |
| 11) What is the solution to f(x) = g(x)? f(x) = 30 + 5.9x g(x) = 4x + 5 |
| 12) What is the solution to f(x) = g(x)? f(x) = $\frac{4x+2}{2}$ g(x) = 9x – 7 |
| 13) What is the solution to f(x) = g(x)? f(x) = 6.2x + 12 g(x) = 3.2x + 33  |
| 14) What is the solution to f(x) = g(x)? f(x) = $\frac{2x}{5}$ g(x) = $\frac{2x-4}{5}$ |
| 15) What is the solution to f(x) = g(x)? f(x) = 2x – 91.4 g(x) = -123.4 + 6x  |
| 16) What is the solution to f(x) = g(x)? f(x) = ½x + 10 g(x) = ¾ + 5x |
| 17) What is the solution to f(x) = g(x)? f(x) = 0.65 – 40x g(x) = 3x + 10 |
| 18) What is the solution to f(x) = g(x)? f(x) = 3x - 9 g(x) = -12(-x – 2) |
| 19) What is the solution to f(x) = g(x)? f(x) = -(x – 7) g(x) = 3(2x + 4) |
| 20) What is the solution to f(x) = g(x)? f(x) = $\frac{x}{4}$ g(x) = 5(-2x – 4) |

**Wednesday, October 31st**

**>Do Now:**

1. What is the solution to f(x) = g(x)? f(x) = 3x -12 g(x) = 30x -5
2. Solve for x. 5= $\frac{1}{4}$($\frac{2x-5}{8}$)

**Thursday, November 1st**

Do Now:

1. Ms. Misconish is buying new markers for the class. She can buy them in packs of 4 or 10. A package of 4 is $4.75 and a package of 10 is $8.50. If she needs 35 new markers which package should she buy and how much money will she save buying one over the other?