

Monday, October 8th, 2018

Equation	Steps
1. $3(5x + 1) = 13x + 5$	Given
2. $15x + 3 = 13x + 5$	distributive POB
3. $2x + 3 = 5$	Combination
4. $2x = 2$	Subtraction POE
5. $x = 1$	Division POE

Handwritten notes: $15x + 3 = 13x + 5$ (circled), $2x + 3 = 5$ (circled), $2x = 2$ (circled), $x = 1$ (circled). Marginal notes: "distributive POB", "Combination", "Subtraction POE", "Division POE".

Sep 16-11:56 AM

Quiz Review

Simplify the following fractional operations:

$\frac{1}{4} + \frac{3}{5}$	$\frac{2}{5} + 3$
$\frac{17}{20}$	$\frac{17}{5}$
$\frac{4}{3} - \frac{2}{5}$	$\frac{14}{15}$
$\frac{3}{8} - \frac{2}{12}$	1
$\frac{5}{9} + 11$	$\frac{106}{9}$
$\frac{3}{10} - \frac{2}{3}$	$\frac{9}{10}$
$\frac{5}{9} + 4$	$\frac{41}{9}$

Handwritten notes: Marginal notes: "MS", "JT", "MB", "KA", "TD", "IC".

Equation	Steps
$2x + 12 = -24$	Distributive Property
$2x = -36$	Subtraction POB
$x = -18$	Division POE

Oct 4-8:30 AM

Jaden has a prepaid phone plan (Plan A) that charges 18 cents for each text sent and 15 cents per minute for calls.

1. If Jaden uses only text a. Write an equation for the cost C of sending t texts.
 $C = .18t$
 b. How much will it cost Jaden to send 15 texts? Justify your answer.
 $t = 15, C = .18(15) = \$2.70$
 c. If Jaden has \$10.26, how many texts can he send? Justify your answer.
 $\frac{10.26}{.18} = t, t = 57$

2. If Jaden only uses the talking features of his plan, a. Write an equation for the cost C of talking m minutes.
 $C = .15m$
 b. How much will it cost Jaden to talk for 15 minutes? Justify your answer.
 $m = 15, C = .15(15) = \$2.25$
 c. If Jaden has \$23.10, how many minutes can he talk? Justify your answer.
 $\frac{23.10}{.15} = m, m = 154$

3. If Jaden uses both talk and text, a. Write an equation for the cost C of sending t texts and talking m minutes.
 $.18t + .15m = C$
 b. How much will it cost Jaden to send 7 texts and talk for 12 minutes? Justify your answer.
 $.18(7) + .15(12) = C, C = 3.06$

Oct 4-8:30 AM

Tuesday, October 9th, 2018

Write the slope-intercept form of the equation of each line. $y = mx + b$

1) $3x - 2y = -16$
 $-2y = -3x - 16$
 $y = \frac{3}{2}x + \frac{16}{2}$
 $y = \frac{3}{2}x + 8$

2) $13x - 11y = -12$
 $-11y = -13x - 12$
 $y = \frac{-13x - 12}{-11}$
 $y = \frac{13}{11}x + \frac{12}{11}$

3) $9x - 7y = -7$
 $-7y = -9x - 7$
 $y = \frac{9x + 7}{7}$
 $y = \frac{9}{7}x + \frac{7}{7}$
 $y = \frac{9}{7}x + 1$

4) $-x - 3y = 6$
 $-3y = x + 6$
 $y = \frac{-x + 6}{-3}$
 $y = \frac{x}{3} - 2$

Sep 16-11:56 AM

Foundations of Algebra Unit 3: Equations and Inequalities Quiz

Graphing the 4 Types of Linear Equations

Sketch the graph of each line.

1) $x = 5$

2) $y = -2x + 1$

3) $2x + y = -1$

4) $x - 3y = 12$

Handwritten notes: "Slope", "y-intercept", "x-intercept", "Summarize: $y = mx + b$, plot b on the y-axis, use m = rise/run".

Oct 4-8:44 AM

Graphing Lines & Killing Zombies

Name: _____

Graphing Slope-Intercept Form & Killing Zombies

Cut out the 12 boxes, graph each line, and match the equation of the line to the zombie that it "killed".

$y = 2/3x - 16$	$y = -1/2x - 23$	$y = -3/2x - 22$	$y = -1/4x + 22$
$y = x - 23$	$y = 4/3x + 7$	$y = 1/3x + 7$	$y = 4/3x - 2$
$y = -x + 10$	$y = 1/3x + 23$	$y = -2/5x - 6$	$y = 1/2x - 5$

Handwritten notes: "m = rise/run", "y = 2/3x - 16".

Oct 4-8:46 AM

STAINED GLASS BLUEPRINTS NAME: _____ DATE: _____ PERIOD: _____

1) Graph each line on your paper using pencil. Make sure that your lines are straight by using a ruler. Extend the lines to the edge of your paper. You may trim the edges later to make it neat.
 2) When you have finished graphing all the lines, color your design to create a stained glass window.
 3) You may wish to go over certain parts of the design with a dark pen, crayon, or marker to emphasize different portions.

1) $y = -\frac{3}{2}x + 12$ 7) $y = \frac{4}{5}x - 4$
 2) $y = \frac{5}{2}x + 12$ 8) $y = -\frac{1}{5}x - 4$
 3) $y = -\frac{3}{2}x - 12$ 9) $y = 12$
 4) $y = \frac{3}{2}x - 12$ 10) $y = -12$
 5) $y = \frac{3}{2}x + 4$ 11) $x = -10$
 6) $y = -\frac{1}{5}x + 4$ 12) $x = 10$

After you have graphed all the lines, plot these points. Connect them in the order that they are plotted. For example, graph (-2,0). Then graph (0,4) and connect it back to (-2,0). When you reach a STOP, you have completed a shape. Pick up the pencil and start the next column without connecting it to the previous one.

(-2, 0)	(0, 10)	(-1, 0)	(0, -4)	(0, 4)
(0, 4)	(5, 0)	(0, 3)	(1, -6)	(1, 6)
(2, 0)	(0, -10)	(1, 0)	(0, -10)	(0, 10)
(0, -4)	(-5, 0)	(0, -3)	(-1, -6)	(-1, 6)
(-2, 0)	(0, 10)	(-1, 0)	(0, -4)	(0, 4)
STOP	STOP	STOP	STOP	STOP

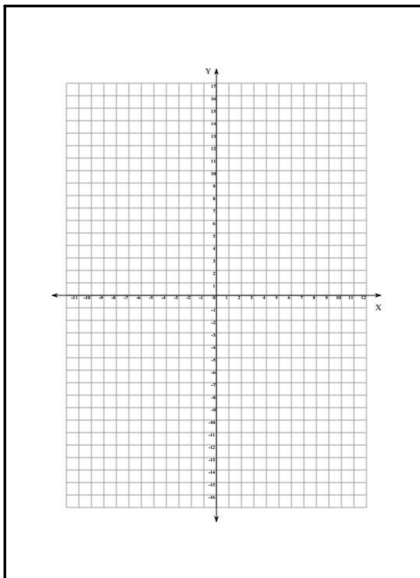
Oct 8-1:34 PM

October 10, 2018, Wednesday

Find the y-intercept (b), and the slope (m) for each line.

1) $y = x - 4$ 2) $y = \frac{1}{2}x - 3$
 3) $y = \frac{4}{3}x - 4$ 4) $2x - y = -3$
 5) $3x + 2y = 8$ 6) $3x - y = 2$

Oct 9-11:33 AM



Oct 8-1:34 PM

Wednesday, October 10th, 2018

Thursday $y = mx + b$

5) $6x + 5y = -15$
 $-6x \quad -6x$
 $5y = -6x - 15$
 $y = \frac{-6x - 15}{5}$
 $y = -\frac{6}{5}x - \frac{3}{5}$

6) $4x - y + 1$
 $4x - y = -1$
 $-y = -4x - 1$
 $y = 4x + 1$

7) $11x - 4y = 32$
 $-4y = -11x + 32$
 $y = \frac{11x - 32}{4}$
 $y = \frac{11}{4}x - 8$

8) $11x - 8y = -48$
 $-8y = -11x - 48$
 $y = \frac{11x + 48}{8}$
 $y = \frac{11}{8}x + 6$

Be ready to describe how to graph one of these!!

Sep 16-11:56 AM

Foundations of Algebra Unit 3 - Equations and Inequalities

Day 5 - Solving by Graphing **Pendas**

Systems of 2 linear equations:
 • 2 equations with 2 variables (x & y) each.
 • Solution of a system on an **Ordered Pair (x, y)** that makes **both equations true**.

Check whether the ordered pairs are solutions of the system:
 A. $\begin{cases} x + y = 5 \\ x - y = 5 \end{cases}$ System of eqns.
 $1 + 1 = 2 \neq 5$ Not a solution
 $1 - 1 = 0 \neq 5$ Not a solution

B. $\begin{cases} x + y = 5 \\ x - y = -5 \end{cases}$ System of eqns.
 $1 + 0 = 1 \neq 5$ Not a solution
 $1 - 0 = 1 \neq -5$ Not a solution

How to solve systems by graphing:
 1. Graph each equation on the $x = y$ coordinate plane.
 2. Find the **intersection** (the point (x, y)) where the lines intersect to the **solution**.

1. $y = 3x - 12$ 2. $y = \frac{2}{3}x + 3$
 $3x - 12 = \frac{2}{3}x + 3$
 $3x - \frac{2}{3}x = 3 + 12$
 $\frac{9x - 2x}{3} = 15$
 $\frac{7x}{3} = 15$
 $7x = 45$
 $x = \frac{45}{7}$

3. $y = x - 4$ 4. $x + 2y = 10$
 $x - 4 = x + 2y - 10$
 $-4 = 2y - 10$
 $6 = 2y$
 $y = 3$
 $x = 3 - 4 = -1$
 Solution: $(-1, 3)$

Oct 4-9:03 AM

Foundations of Algebra Unit 3 - Equations and Inequalities

Day 5 - Solving by Graphing

Check whether the ordered pairs are solutions of the system:
 $\begin{cases} x - 2y = -10 \\ 2x + 3y = 1 \end{cases}$
 1. $(-4, 3)$
 $-4 - 2(3) = -4 - 6 = -10$ Yes
 $2(-4) + 3(3) = -8 + 9 = 1$ Yes
NO 15 = 1

Solve the System of Equations by Graphing. Write your final answer as an **Ordered Pair**.

3. $y = -3x - 5$ 4. $y = -2x + 3$
 $y = 2x - 5$ $y = x + 3$

5. $y = 2x - 6$ 6. $x^2 + 2y = 6$
 $3x + y = -1$ $3x - 2y = 2$

Oct 4-9:03 AM

October 12, 2018 Friday

Tom is a tennis instructor. He gives individual lessons for \$30 an hour and does team lessons for \$60 per hourly session. He has trouble getting teams to sign up when league play is not going on, so sometimes he has to count on individual lessons for his income.

- If Tom only does individual lessons,
 - Write an equation for his total income T working i hours.
 $30i = T$
 - How much will he make if he works 20 hours a week? Justify your answer.
 $30(20) = T$ $600 = T$
- If he wants to make \$900 dollars per week, how many hours does he have to work? Justify your answer.
 $\frac{30i}{30} = \frac{900}{30}$ $i = 30$

Sep 16-11:56 AM

Solving Linear Systems with Graphing 83

Definition: A Linear System is a set of two linear equations.

Example: $y = -2x$ and $y = x + 3$

- Does the point (0, 4) make either equation true? Substitute it in and find out.
- Does the point (2, 5) make either equation true? Explain.
- Does the point (-1, 2) make either equation true? Explain.

If a point works in both equations of a linear system, then that point must be the **SOLUTION** to the linear system. When you solve a linear system you find that one point makes both equations true.

- What point is the solution to the system above? _____

Plot both equations in the same coordinate plane below. $y = -2x$ and $y = x + 3$

- At what point do the two lines intersect? _____ Compare this with your answer for #4.

An ordered pair that makes a linear equation TRUE is called a _____.

The point that the two lines _____ is the solution to the system!

To solve a system of linear equations, the ordered pair must work for _____ equation!

Oct 4-9:08 AM

Steps for Solving a Linear System Using Graphing:

- Put the equations in slope-intercept or standard form.
- Graph each equation on the same coordinate system.
- Locate the point of intersection and write it down.
- Verify that the point makes both equations true!

Example: $y = 2x$ Point _____
 $y = -x + 3$ Verify: _____

Example: $y = -2x - 4$ Point _____
 $y = x - 2$ Verify: _____

Try these:

- $y = -x + 5$
 $y = x + 1$
- $2x - y = 2$
 $x = 3$
- $2x + y = 2$
 $x - y = 4$

Oct 4-9:08 AM

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Sep 16-11:56 AM

7.1 - Solving Systems of Equations by Graphing Homework 84

Solve these linear systems by graphing.

- $y = -x + 3$ and $y = 2x - 6$ 2) $y = -x + 3$ and $y = x + 1$

For a grade!

- $x - y = 2$ and $x + y = -6$ 4) $x + y = -2$ and $7x - 4y = 8$

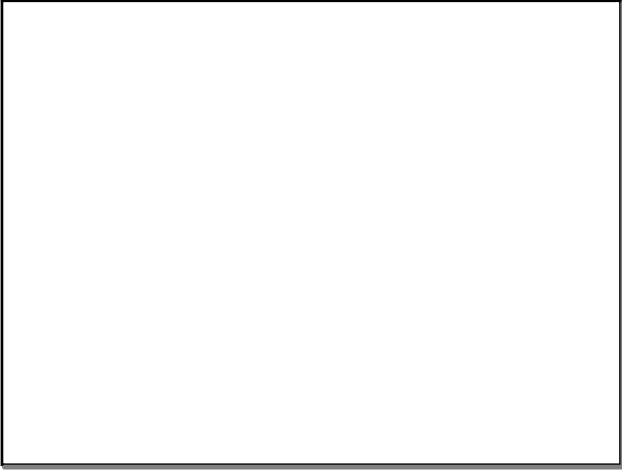
Oct 4-9:10 AM

Graphing Systems of Equations

Solve each system of equations by graphing:

1. $x + y = 5$ $x - y = 1$	2. $4x - 2y = -8$ $y = 2x + 4$	3. $y = -3x + 2$ $y = 2x - 3$
4. $y = \frac{3}{2}x + 1$ $y = \frac{1}{2}x - 3$	5. $4x - 6y = 12$ $2x + 2y = 6$	6. $y = 3$ $x - y = -4$
7. $y = \frac{2}{3}x + 2$ $y = -x - 2$	8. $4x + 6y = 12$ $2x + 3y = 6$	9. $y = -\frac{1}{2}x + 4$ $y = \frac{3}{2}x$

Oct 4-9:10 AM



Oct 11-1:33 PM