

⚠ Note: Give this supplement when the exercise below is about to begin. ⚠



Objective: Introduction to Systems

Homework SY0 – The Doctor’s Intro to Systems Handout

Do Now: Find slope of the line that passes through these points.

1. (2, 10) (6, 20)

2. (1, 0) (-2, 9)

Exam Prep: Which of the following lines is parallel to  $y = 2x + 4$ ?

A)  $y = -2x + 4$

C)  $2y - 10 = 4x$

B)  $2y = 2x$

D)  $y = -\frac{1}{2}x + 1$

|                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                  |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>A <u>system of equations</u> is a set of two or more equations with the same variables. If the system has a solution, it would be a coordinate common to all the equations in the system.</p> <p><b>Future Discussion:</b> <i>How do you think we would find the solution?</i></p> | <p><u>Example:</u> <math>y = x + 4</math> and <math>y = -2x + 10</math></p> <p><u>Solution:</u> (2, 6)</p> <p>This solution can be found by graphing or using Algebra. We will explore both.</p> |
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The Readiness Checklist

|                                                                                               |                                                  |                         |
|-----------------------------------------------------------------------------------------------|--------------------------------------------------|-------------------------|
| <p>Slope 1. Find the equation of a line in slope-intercept form, <math>y = mx + b</math>.</p> |                                                  |                         |
| <p>a) <math>m = 8, b = -5</math></p>                                                          | <p>b) <math>m = -\frac{1}{2}, (6, -1)</math></p> | <p>c) (9, 7) (3, 3)</p> |

|                                                                                       |                                             |                                   |
|---------------------------------------------------------------------------------------|---------------------------------------------|-----------------------------------|
| <p>Slope 2. Put the functions into slope-intercept form, <math>y = mx + b</math>.</p> |                                             |                                   |
| <p>a) <math>5y + 2x = 55</math></p>                                                   | <p>b) <math>3x + 1 = \frac{y}{2}</math></p> | <p>c) <math>3x + y = x</math></p> |

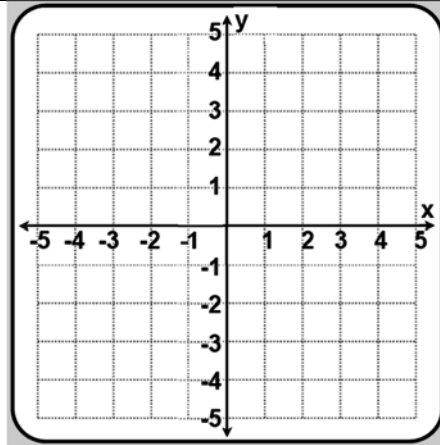
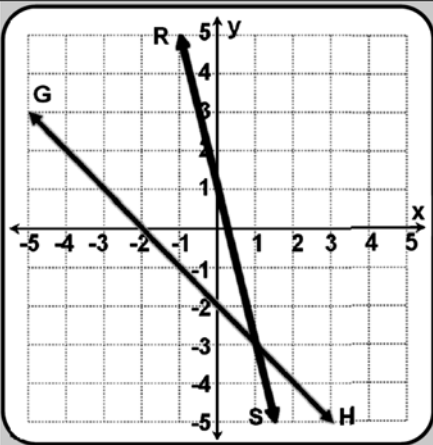
Slope 3. Graphing a line and identifying the equation of a line from a graph.

a) Write the equations of lines.

GH: \_\_\_\_\_ RS: \_\_\_\_\_

b) Graph the linear equations.

JK:  $y = \frac{2}{3}x - 1$  PW:  $y = -x + 4$



Algebra 1. Basic signed-number problems

a)  $3 + -5 =$

b)  $-4 + -18 =$

c)  $-20 + 12 =$

d)  $8 + -13 + -9 =$

e)  $-10x + x =$

f)  $-16y + -6y =$

g)  $-3x + -3x =$

h)  $6x + -5x + -x =$

Algebra 2. Solving equations with simplification

a)  $4x + 10 = 3x + 2$

b)  $2(3x - 12) = 5(2x)$

c)  $10 - 4x = x - 50$

Algebra 3. Substitute the given info and simplify.

Given

- a = 5
- b = -3
- c = 2x
- d = -5x
- e = x + 1

a)  $y = 2a$

b)  $y = 4d + c + a$

c)  $y = c + b$

d)  $y = e + 2b$

e)  $y = 2e$

f)  $y = d - c + ab$

