Algebra 1 CC
Assignment #47
Properties of Systems and Their Solutions

1. The point $(2, 7)$ is a solution to the system of equations given below.

$$3x + 2y = 20$$
$$x - y = -5$$

(a) Show that this point is a solution.
(b) Add the two equations together and show that $(2, 7)$ is a solution to the result.
(c) Subtract the two equations (be careful) and show that $(2, 7)$ is a solution to the result.
(d) Multiply both sides of the second equation by 2. Show that $(2, 7)$ is a solution to the result.

2. The point $(4, -2)$ is a solution to the system of equations. Which of the following equations would it *not* be a solution to?

$$2x + y = 6$$
$$x + 5y = -6$$

(1) $3x + 6y = 0$ (2) $2x + 10y = -12$ (3) $2x + 2y = 12$ (4) $x - 4y = 12$

3. Which of the following points is a solution to the system?

$$x - 2y = -11$$
$$5x + 2y = 29$$

(1) $(4, 1)$ (2) $(5, 2)$ (3) $(-3, 9)$ (4) $(3, 7)$

R1. Simplify. 7(m – 3) + 4(m + 5)

R2. State the property used below.

(4 + 3) + 2 = 4 + (3 + 2)

R3. What is the slope of the line 2x – 3y = 8?

R4. What is the slope of the line that joins the points (-2, 13) and (2, 3)? Write its equation.

R5. Solve for g: $s = \frac{1}{2}gt$

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1. (a) 20 = 20, -5 = -5
   (b) 15 = 15
   (c) 20 = 25
   (d) -10 = -10
2. (3)
3. (4)

R1. 11m – 1
R2. Associative

R3. $m = \frac{3}{2}$

R4. $m = -\frac{5}{2}$

$$y = -\frac{5}{2}x + 8$$

R5. $g = \frac{2s}{t}$