

Worksheet:

1. Graph the line $x - 2y = 6$ by plotting three points. Be sure to label your points.

2. If we multiply the above equation by -2 (of course you multiply both sides by the same number to get an equivalent equation) we get the new equation

$$-2x + 4y = -12$$

Graph this line by plotting three points.

3. Suppose we multiply the original equation by 3, but for some reason forget to multiply both sides of the equation and only multiply the left side by 3 (a common mistake). The new equation would be

$$3x - 6y = 6$$

Graph this line by plotting three points. What do you notice about the lines?

4. Do the lines in question 1 and question 2 intersect?

If so, where.

If not, why not?

5. What happens if you try to “solve” the system of equations

$$x - 2y = 6$$

$$-2x + 4y = -12$$

What happens if you try to solve the equations

$$x - 2y = 6$$

$$3x - 6y = 6$$