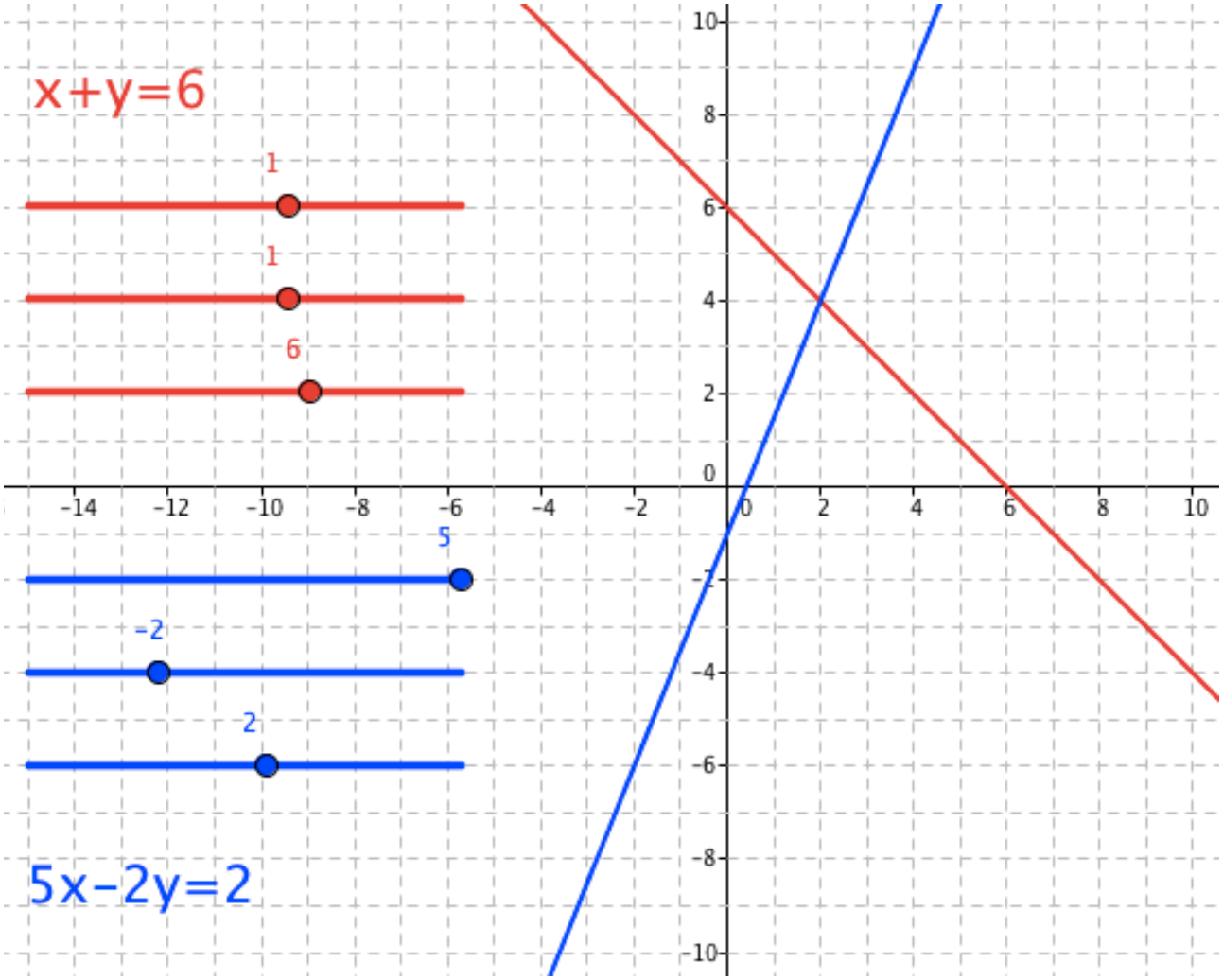
Simultaneous Equations Graphical Solution

The coordinates of every point on the red line satisfy the red equation so the red line is the graph of: $x + y = 6$

The coordinates of every point on the blue line satisfy the blue equation so the blue line is the graph of: $5x - 2y = 2$



What about (2, 4), the point of intersection of the red and blue lines?

These coordinates, x = 2, y = 4 satisfy both the equations!

Therefore x = 2, y = 4 represents the solution to the pair of simultaneous equations:

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

Because the answers satisfy both equations we say they are being solved simultaneously, hence the name simultaneous equations.

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Exercise:

Run the Geogebra worksheet: Simultaneous Equations Graphical Solution.

By using the slider bars to change the equations, solve the following five pairs of simultaneous linear equations:

Q1 $2x - 3y = 18$
$3x + 5y = 8$

Q2 $4x - 5y = 15$
$-3x + 2y = -20$

Q3 $2x + y = 14$
$3x - 2y = -7$

Q4 $x = 16$
$2x - 5y = 7$

Q5 $4x + 3y = 5$
$5x + y = -13$

All the answers should be integers.