Graphing Systems of Equations

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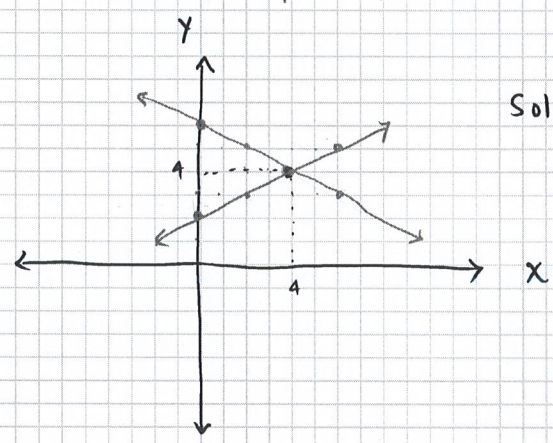
- Two or more equations are called a "system"
- The "solution" to a system is the point of intersection (POI).
- We can locate the solution by graphing each line and looking for the point (x, y) where they intersect.

Ex. Find the solution to the system:

$y = -\frac{1}{2}x + 6$

$y = \frac{1}{2}x + 2$

- given $y = mx + b$ form
  - plot y-int, count slope



Solution: (4, 4)

Ex. Solve by graphing:

$3x + y = 11$
$-3x \qquad -3x$

$y = -3x + 11$

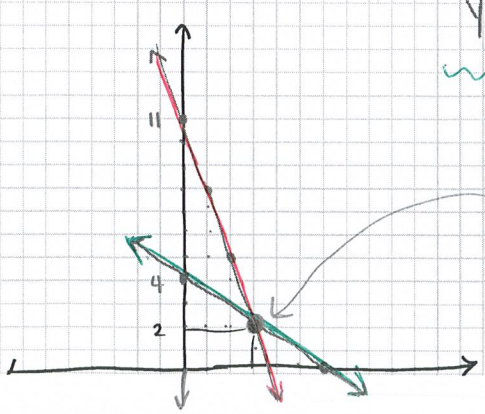
$2x + 3y = 12$
$-2x \qquad -2x$

$\frac{3y}{3} = \frac{-2x}{3} + \frac{12}{3}$

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

① convert to $y = mx + b$

② plot y-int
count slope



Solution: (3, 2) point they meet!