

Quiz Thurs?

3.2b - Elimination

Goal: Eliminate x or y by adding the 2 equations together

Solve

1st. Get it so
Coefficients
of x or y differ
only in sign

$$\textcircled{1} 3x + 3y = -15 \rightarrow *3$$

$$9x + 9y = -45$$

2nd - Now add them

$$\textcircled{2} 5x - 9y = 3$$

$$+ 5x - 9y = 3$$

together

easier to eliminate y
multiply $\textcircled{1}$ by 3

$$\frac{14x}{14} = \frac{-42}{14}$$

$$x = -3$$

3rd - plug $x = -3$ into

$$3(-3) + 3y = -15$$

$\textcircled{1}$ or $\textcircled{2}$ to get y

$$-9 + 3y = -15$$

$$3y = -6$$

$$y = -2$$

$$\textcircled{(-3, -2)}$$

Solve

Elim x

$$\textcircled{1} 4x + 3y = -2 \rightarrow 4x + 3y = -2$$

(1, -2)

$$\textcircled{2} x + 5y = -9 \rightarrow *4 \quad -4x - 20y = +36$$

$$-17y = 34$$

$$y = -2$$

$$x + 5(-2) = -9$$

$$x - 10 = -9$$

$$x = 1$$

$$\textcircled{(1, -2)}$$

Elim x

$$\textcircled{1} 3x - 6y = 9 \rightarrow *4 \quad 12x - 24y = 36$$

$$\textcircled{2} -4x + 7y = -16 \rightarrow *3 \quad -12x + 21y = -48$$

$$-3y = -12$$

$$y = 4$$

$$3x - 6(4) = 9$$

$$3x - 24 = 9$$

$$3x = 33$$

$$x = 11$$

$$\textcircled{(11, 4)}$$

plug: $15 = 23$ add, 18,