Algebra 1

Chapter 6

Section 6-3 part 1

Elimination Method

$3x - 5y = 18$

$-2x + 5y = -7$

$x = 11$

$3(11) - 5y = 18$

$33 - 5y = 18$

$-33 \quad -33$

$-5y = -15$

$\frac{-5y}{-5} = \frac{-15}{-5}$

$y = 3$

Solution $(11, 3)$

$-2(11) + 5y = -7$

$-22 + 5y = -7$

$+22 \quad +22$

$5y = 15$

$\frac{5y}{5} = \frac{15}{5}$

$y = 3$

Elimination Method

- The object of the elimination method is to "eliminate" one variable from the system by adding two whole equations together
  - > Need the two equations to have one set of "opposite" terms.

Elimination Method

$9x + 11y = 5$

$9x - 4y = 35$

$-1 \cdot (9x - 4y = 35)$

$-9x + 4y = -35$

$9x + 11y = 5$

$15y = -30$

$\frac{15y}{15} = \frac{-30}{15}$

$y = -2$

$9x + 11(-2) = 5$

$9x - 22 = 5$

$+22 \quad +22$

$\frac{9x}{9} = \frac{27}{9}$

$x = 3$

Solution: $(3, -2)$

Elimination Method

$9x - y = 6$

$-9x + y = 6$

$0 \neq 12$

No solution

(Parallel Lines)

Elimination Method

$x + 3y = 6$

$7x - 3y = 10$

$\frac{8x}{8} = \frac{16}{8}$

$x = 2$

$2 + 3y = 6$

$-2 \quad -2$

$3y = 4$

$y = \frac{4}{3}$

Solution: $(2, \frac{4}{3})$

Elimination Method

$4x - 7y = 5$

$7 = 4x - 5y$

-1

$4x - 5y = 7$

$-4x + 7y = -5$

$2y = 2$

$y = 1$

$4x - 7(1) = 5$

$4x - 7 = 5$

$+7 \quad +7$

$4x = 12$

$x = 3$

Solution: $(3, 1)$

Elimination Method

$6x - 7y = 0$

$y - 6x = 0$

$-6x + y = 0$

$6x - 7y = 0$

$-6y = 0$

$y = 0$

$-6x = 0$

$x = 0$

solution: $(0, 0)$

Elimination Method