Example # 5:

4x + 3y = -2

4x + 3y = 3 $\Rightarrow 4x = -3y + 3$

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

$4x + 3y = -2$

$4\left(-\frac{3}{4}y + \frac{3}{4}\right) + 3y = -2$

$-3y + 3 + 3y = -2$

$3 \neq -2$

no solution

You Try!

Example 6:

-3 + x = -2y $\Rightarrow$ $x = -2y + 3$

2x + 4y = 6

$2x + 4y = 6$

$2(-2y+3) + 4y = 6$

$-4y + 6 + 4y = 6$

$6 = 6$

infinitely many solutions

Your Turn!

Example # 7:

3x + 1 = -7y

6x + 7y = 0 $\Rightarrow$ $6x = -7y$

$3x + 1 = -7y$

$3x + 1 = 6x$

$1 = 3x$

$\frac{1}{3} = x$

$6\left(\frac{1}{3}\right) = -7y$

$2 = -7y$

$-\frac{2}{7} = y$

$\left(\frac{1}{3}, -\frac{2}{7}\right)$ is the solution

Example 8:

$5x + 2y = 24$

$x + 3y = 10$

by substitution and graphing

Pairs Check work with your shoulder buddy

Show work on a separate sheet of paper

Homework worksheet solving systems by substitution with special cases