

# Review Worksheet 1

① Solve by graphing!

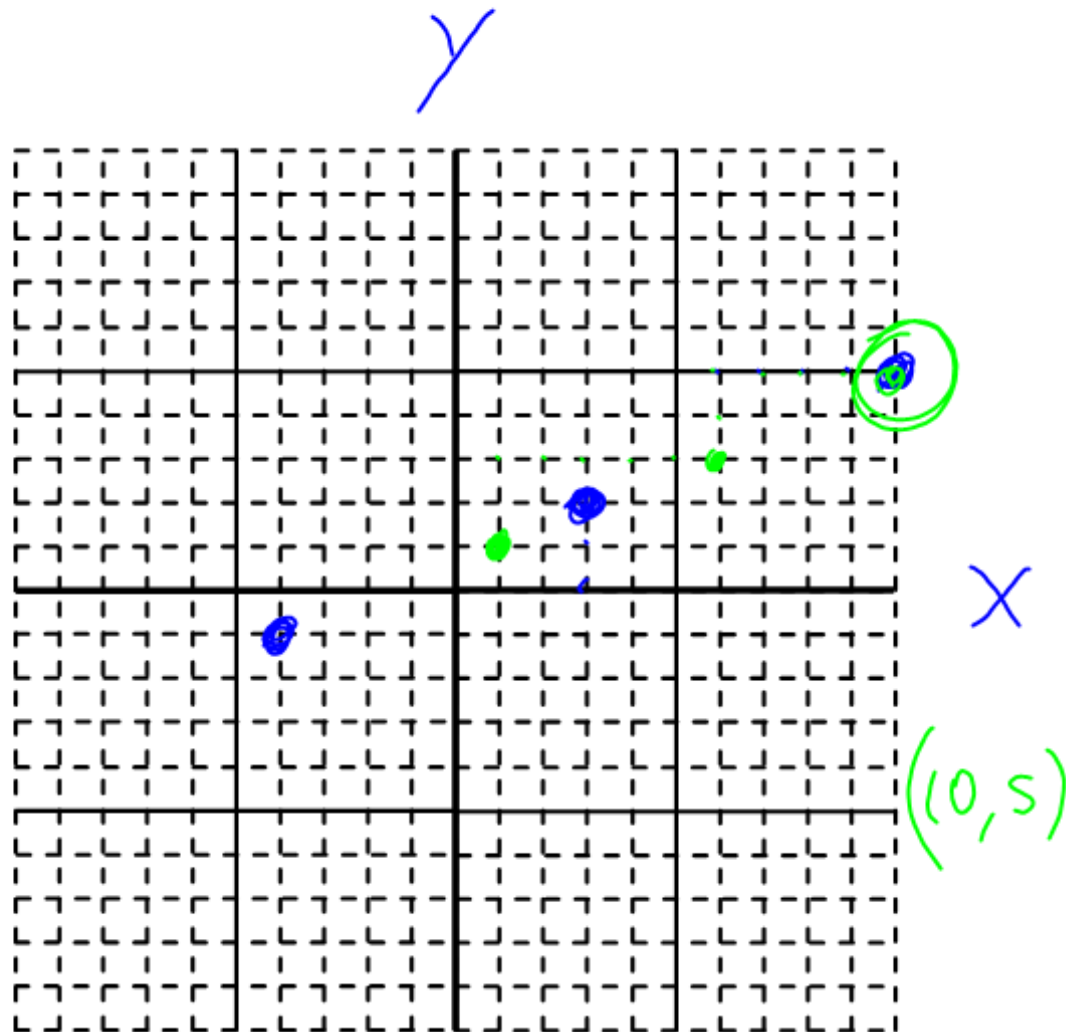
$$y = \frac{3}{7}x + \frac{5}{7}$$

$$2x - 5y = -3$$

$$-5y = -2x - 3$$

$$y = \frac{2}{5}x + \frac{3}{5}$$

x	y
0	
1	$\frac{8}{7}$
2	$\frac{14}{7}$
3	$\frac{14}{7} = 2$
4	
5	



(2) solve by substitution

$$2x - 3y = 6$$

$$y = \underline{-3x - 4}$$

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

$$2x + 9x + 12 = 6$$

$$11x = -6$$

$$x = \frac{-6}{11}$$

$$y = -3\left(\frac{-6}{11}\right) - 4$$

$$y = \frac{18}{11} - \frac{44}{11}$$

$$y = \frac{-26}{11}$$

③ solve by elimination

$$3x + 2y = 1 \quad \longrightarrow$$

$$-9x - y = -13 \quad \xrightarrow{\cdot 2}$$

$$\begin{array}{r} 3x + 2y = 1 \\ -18x - 2y = -26 \\ \hline \end{array}$$

$$-15x = -25$$

$$x = \frac{-25}{-15} = \left(\frac{5}{3}\right)$$

$$\downarrow$$

$$-9\left(\frac{5}{3}\right) - y = -13$$

$$\begin{array}{r} -\frac{45}{3} - y = -13 \\ \cdot 3 \quad \cdot 3 \quad \cdot 3 \end{array}$$

$$-45 - 3y = -39$$

$$-3y = 6$$

$$\left(y = -2\right)$$

$$\left(\frac{5}{3}, -2\right)$$

(4) solve any way

$$5x = 8 - 2y$$

$$10x - 3y = 1$$

Nasty answer?

$$10x = 16 - 4y$$

$$(16 - 4y) - 3y = 1$$

$$16 - 7y = 1$$

$$-7y = -15$$

$$y = 15/7$$

$$10x = 16 - 4\left(\frac{15}{7}\right)$$

$$10x = 16 - \frac{60}{7}$$

$$70x = 112 - 60$$

$$70x = 52$$

$$x = \frac{52}{70}$$

$$x = \frac{26}{35}$$

⑤ Find the equation of a line  
 $\perp$  to  $3x - 5y = 7$  through  $(2, -8)$

↓

$$\left(\frac{3}{5}\right)x - \frac{7}{5} = y$$

$$m = -\frac{5}{3}$$

$$y = -\frac{5}{3}x - \frac{14}{3}$$

$$y = -\frac{5}{3}x + b$$

$$-8 = -\frac{5}{3}(2) + b$$

$$-8 = -\frac{10}{3} + b$$

$$-24 = -10 + 3b$$

$$-14 = 3b$$

$$-\frac{14}{3} = b$$

⑥ Two popcorns and 4 pops cost \$10.

Eight popcorns and 5 pops cost \$29.

How much for 1 popcorn and 1 pop?

$c$  = popcorn cost

$p$  = cost of pop

$$\begin{array}{r} -8c + -16p = -40 \\ 8c + 5p = 29 \end{array}$$

$$2c + 4p = 10$$

$$-11p = -11$$

$$p = 1$$

$$8c + 5p = 29$$

$$2c + 4 = 10$$

$$2c = 6$$

$$c = 3$$

\$4