KEY

First Name:_____ Last Name:_____

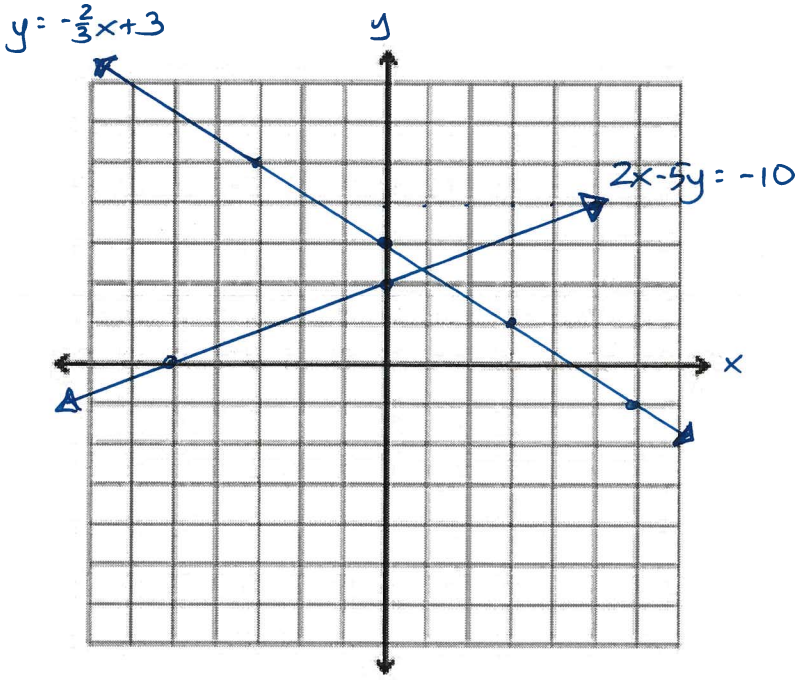
L52 - 9.3 – FQ – Systems of Equations - Review

Q1: Graph the lines to find the solution to the system of equations. *(2 marks)*

$2x - 5y = -10$

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

$2x-5y=-10$
$-2x \quad -2x$
$-5y = -2x - 10$
$\div(-5) \quad \div(-5) \quad \div(-5)$
$y = \frac{2}{5}x + 2$



Q2: Using **substitution**, determine the solution to the system of equations. *(2 marks)*

$2x - 6y = -8$

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

$2x-6y=-8$
$2x-6(2-3x)=-8$
$2x-12+18x=-8$
$20x-12=-8$
$+12 \quad +12$
$20x=4$
$\div 20 \quad \div 20$
$x=\frac{1}{5}$

$y=2-3(\frac{1}{5})$
$y=2-\frac{3}{5}$
$y=\frac{7}{5}$

Soln is $(\frac{1}{5}, \frac{7}{5})$

KEY

Q3: Using **elimination**, determine the solution to the system of equations. *(2 marks)*

$$2x - 5y = -8$$
$$2x - y + 1 = 0$$

$2x-5y+8=0$
$-(2x-1y+1=0)$
$-4y+7=0$
$-7 \quad -7$
$-4y = -7$
$\div(-4) \quad \div(-4)$
$y = \frac{7}{4}$

$2x - y + 1 = 0$
$2x - \left(\frac{7}{4}\right) + 1 = 0$
$2x - \frac{3}{4} = 0$
$-\frac{3}{4} \quad +\frac{3}{4}$
$2x = \frac{3}{4}$
$\div 2 \quad \div 2$
$x = \frac{3}{8}$

Soln is $\left(\frac{3}{8}, \frac{7}{4}\right)$

Q4: Mr. Thibeau is looking to build a Pokémon card deck. He purchases 3 Bulbasaur cards and 2 Ivysaur cards for $12. Mr. Bayer, thinking his Leaf Green deck will be superior, purchases 4 Bulbasaur cards and 1 Ivysaur card for $9.75. What is the cost of each card? *(2 marks)*

Let x = cost of Bulbasaur card.
y = cost of Ivysaur card.

$3x + 2y = 12.00$
$4x + 1y = 9.75$

$3x + 2y = 12.00$
$2(4x + 1y = 9.75)$

$3x + 2y = 12.00$
$-(8x + 2y = 19.50)$
$-5x = -7.5$
$\div(-5) \quad \div(-5)$
$x = 1.50$

$4(1.50) + 1y = 9.75$
$6 + y = 9.75$
$-6 \quad -6$
$y = 3.75$

Bulbasaur cards cost $1.50
Ivysaur cards cost $3.75

MARKING

Beginning	0 – 3.5
Progressing	4 – 5.5
Competent	6 – 7.5
Exemplary	8