Bell Work

$$y = 3x + 22$$

1. Solve and show all work. $y = \dfrac{3}{2}x + 7$

2. Is (-5, 3) a solution for $7x + 8y \geq -10$?

3. What is the vertex for the absolute function below?

   $$f(x) = \dfrac{2}{3}\left|x - 4\right| + 3$$

4. What is the domain in interval notation for the linear parent function?

$$3x + 4y = -1$$

$$2x + 5z = -1$$

$$(\text{-}5) \quad -3y + z = -5$$

$$2x \qquad\quad +5z = -1$$

$$\underline{15y - 5z = 25}$$

$$2x + 15y = 24$$

1. Choose 2 equations and eliminate the one variable in common.

2. Use the new equation and the 3rd equation to eliminate one of the variables and solve for the last variable.

3. Find the other answers.

$$(\text{-}2) \quad 3x + 4y = -1$$
$$(3) \quad\;\; 2x + 15y = 24$$

$$-6x - 8y = 2$$
$$\underline{6x + 45y = 72}$$
$$37y = 74$$
$$y = 2$$

$$3x + 4(2) = -1$$
$$3x = -9$$
$$x = -3$$

$$-3(2) + z = -5$$
$$-6 + z = -5$$
$$x = 1$$

$$\boxed{(-3, 2, 1)}$$

(2) $4x - 3z = 30$

(3) $7y + 2z = 3$

$5x + 3y = 33$

$8x \qquad - 6z = 60$

$\underline{\qquad 21y + 6z = 9 \qquad}$

$8x + 21y = 69$

$8x + 21y = 69$

(-7) $5x + 3y = 33$

1. Choose 2 equations and eliminate the one variable in common.

2. Use the new equation and the 3rd equation to eliminate one of the variables and solve for the last variable.

3. Find the other answers.

$8x + 21y = 69$

$\underline{-35x - 21y = -231}$

$-27x = -162$

$x = 6$

$5x + 3y = 33$

$5(6) + 3y = 33$

$3y = 3$

$y = 1$

$4(6) - 3z = 30$

$24 - 3z = 30$

$-3z = 6$

$z = -2$

$\boxed{(6, 1, -2)}$

(2) $-5x + 6y = -16$

$3y - 4z = -30$

(5) $2x - 5z = -23$

$-10x + 12y = -32$

$\underline{10x \quad\quad -25z = -115}$

$12y - 25z = -147$

1. Choose 2 equations and eliminate the one variable in common.

2. Use the new equation and the 3rd equation to eliminate one of the variables and solve for the last variable.

3. Find the other answers.

$12y - 25z = -147$

(-4) $3y - 4z = -30$

$12y - 25z = -147$

$\underline{-12y + 16z = 120}$

$-9z = -27$

$z = 3$

$2x - 5(3) = -23$

$2x - 15 = -23$

$2x = -8$

$x = -4$

$3y - 4(3) = -30$

$3y - 12 = -30$

$3y = -18$

$y = -6$

$\boxed{(-4, -6, 3)}$

Assignment:

Solving 3 by 3 Systems of Equations Worksheet