Bell Work

1. Solve and show all work.

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

2. Is (8, 6) a solution for $4x - 6 < 3(y + 4)$?

3. Describe the transformation of the parent function to get this function. $f(x) = 3|x + 5| - 6$

4. What is the range in set notation for the constant parent function?

$3x + 2y - 4z = -5$ ←

(-2) $2x + y + 7z = 8$ ←

$5x - 3y + 3z = 33$

$3x + 2y - 4z = -5$

$-4x - 2y - 14z = -16$

$-x - 18z = -21$

1. Choose 2 equations and eliminate one of the variables.

$$3x + 2y - 4z = -5$$
$$(3)\ 2x + y + 7z = 8 \quad \leftarrow$$
$$5x - 3y + 3z = 33 \quad \leftarrow$$

1. Choose 2 equations and eliminate one of the variables.
2. Choose a different pair of equations and eliminate the same variable.

$$3x + 2y - 4z = -5$$
$$-4x - 2y - 14z = -16$$
$$-x - 18z = -21$$

$$6x + 3y + 21z = 24$$
$$5x - 3y + 3z = 33$$
$$11x + 24z = 57$$

$$3x + 2y - 4z = -5$$
$$2x + y + 7z = 8$$
$$5x - 3y + 3z = 33$$

1. Choose 2 equations and eliminate one of the variables.
2. Choose a different pair of equations and eliminate the same variable.
3. With the 2 new equations, eliminate one of the variables.

$$3x + 2y - 4z = -5$$
$$-4x - 2y - 14z = -16$$
$$(11)\quad -x - 18z = -21$$

$$6x + 3y + 21z = 24$$
$$5x - 3y + 3z = 33$$
$$11x + 24z = 57$$

$$-11x - 198z = -231$$
$$11x + 24z = 57$$
$$-174z = -174$$
$$z = 1$$

$$3x + 2y - 4z = -5$$
$$2x + y + 7z = 8$$
$$5x - 3y + 3z = 33$$

1. Choose 2 equations and eliminate one of the variables.
2. Choose a different pair of equations and eliminate the same variable.
3. With the 2 new equations, eliminate one of the variables.
4. Substitute to find the other answers.

$$\begin{array}{r} 3x + 2y - 4z = -5 \\ -4x - 2y - 14z = -16 \\ \hline -x - 18z = -21 \end{array}$$

$$\begin{array}{r} 6x + 3y + 21z = 24 \\ 5x - 3y + 3z = 33 \\ \hline 11x + 24z = 57 \end{array}$$

$$\begin{array}{r} -11x - 198z = -231 \\ 11x + 24z = 57 \\ \hline -174z = -174 \end{array}$$

$$z = 1$$

$$11x + 24(1) = 57$$
$$11x = 33$$
$$x = 3$$
$$2(3) + y + 7(1) = 8$$
$$y = -5$$

$$(3, -5, 1)$$

$$(2)\quad 2x + 7y + 3z = 25$$
$$(-3)\quad 5x - 3y + 2z = -59$$
$$\qquad 4x - 2y - 5z = -18$$

$$4x + 14y + 6z = 50$$
$$-15x + 9y - 6z = 177$$
$$-11x + 23y = 227$$

1. Choose 2 equations and eliminate one of the variables.
2. Choose a different pair of equations and eliminate the same variable.
3. With the 2 new equations, eliminate one of the variables.
4. Substitute to find the other answers.

$$2x + 7y + 3z = 25$$
$$(5)\ 5x - 3y + 2z = -59$$
$$(2)\ 4x - 2y - 5z = -18$$

$$4x + 14y + 6z = 50$$
$$-15x + 9y - 6z = 177$$
$$-11x + 23y = 227$$

$$25x - 15y + 10z = -295$$
$$8x - 4y - 10z = -36$$
$$33x - 19y = -331$$

1. Choose 2 equations and eliminate one of the variables.
2. Choose a different pair of equations and eliminate the same variable.
3. With the 2 new equations, eliminate one of the variables.
4. Substitute to find the other answers.

$$2x + 7y + 3z = 25$$
$$5x - 3y + 2z = -59$$
$$4x - 2y - 5z = -18$$

$$4x + 14y + 6z = 50$$
$$-15x + 9y - 6z = 177$$
$$\overline{\quad}$$
$$(3)\quad -11x + 23y = 227$$

$$25x - 15y + 10z = -295$$
$$8x - 4y - 10z = -36$$
$$\overline{\quad}$$
$$33x - 19y = -331$$

1. Choose 2 equations and eliminate one of the variables.
2. Choose a different pair of equations and eliminate the same variable.

➔ 3. With the 2 new equations, eliminate one of the variables.

4. Substitute to find the other answers.

$$-33x + 69y = 681$$
$$33x - 19y = -331$$
$$\overline{\quad}$$
$$50y = 350$$
$$y = 7$$

$$2x + 7y + 3z = 25$$
$$5x - 3y + 2z = -59$$
$$4x - 2y - 5z = -18$$

$$4x + 14y + 6z = 50$$
$$-15x + 9y - 6z = 177$$
$$(3)\quad -11x + 23y = 227$$

$$25x - 15y + 10z = -295$$
$$8x - 4y - 10z = -36$$
$$33x - 19y = -331$$

1. Choose 2 equations and eliminate one of the variables.
2. Choose a different pair of equations and eliminate the same variable.
3. With the 2 new equations, eliminate one of the variables.
4. Substitute to find the other answers.

$$-33x + 69y = 681$$
$$33x - 19y = -331$$
$$50y = 350$$
$$y = 7$$

$$33x - 19(7) = -331$$
$$x = -6$$

$$5(-6) - 3(7) + 2z = -59$$
$$z = -4$$

$$(-6, 7, -4)$$

(2) $4x - 3y - 2z = -32$
$5x + 2y + 4z = 14$
$3x + 5y - 7z = 3$

$8x - 6y - 4z = -64$
$5x + 2y + 4z = 14$
$13x - 4y = -50$

➔
1. Choose 2 equations and eliminate one of the variables.
2. Choose a different pair of equations and eliminate the same variable.
3. With the 2 new equations, eliminate one of the variables.
4. Substitute to find the other answers.

$$(7)\quad 4x - 3y - 2z = -32$$
$$5x + 2y + 4z = 14$$
$$(-2)\quad 3x + 5y - 7z = 3$$

$$8x - 6y - 4z = -64$$
$$5x + 2y + 4z = 14$$
$$13x - 4y = -50$$

$$28x - 21y - 14z = -224$$
$$-6x - 10y + 14z = -6$$
$$22x - 31y = -230$$

1. Choose 2 equations and eliminate one of the variables.
2. Choose a different pair of equations and eliminate the same variable.
3. With the 2 new equations, eliminate one of the variables.
4. Substitute to find the other answers.

$$4x - 3y - 2z = -32$$
$$5x + 2y + 4z = 14$$
$$3x + 5y - 7z = 3$$

$$8x - 6y - 4z = -64$$
$$5x + 2y + 4z = 14$$
$$(-31)\ 13x - 4y = -50$$

$$28x - 21y - 14z = -224$$
$$-6x - 10y + 14z = -6$$
$$(4)\ 22x - 31y = -230$$

1. Choose 2 equations and eliminate one of the variables.
2. Choose a different pair of equations and eliminate the same variable.
3. With the 2 new equations, eliminate one of the variables.
4. Substitute to find the other answers.

$$-403x + 124y = 1550$$
$$88x - 124y = -920$$
$$-315x = 630$$
$$x = -2$$

$$4x - 3y - 2z = -32$$
$$5x + 2y + 4z = 14$$
$$3x + 5y - 7z = 3$$

$$8x - 6y - 4z = -64$$
$$5x + 2y + 4z = 14$$
$$13x - 4y = -50$$

$$28x - 21y - 14z = -224$$
$$-6x - 10y + 14z = -6$$
$$22x - 31y = -230$$

1. Choose 2 equations and eliminate one of the variables.
2. Choose a different pair of equations and eliminate the same variable.
3. With the 2 new equations, eliminate one of the variables.
4. Substitute to find the other answers.

$$-403x + 124y = 1550$$
$$88x - 124y = -920$$
$$-315x = 630$$
$$x = -2$$

$$13(-2) - 4y = -50$$
$$y = 6$$

$$5(-2) + 2(6) + 4z = 14$$
$$z = 3$$

$$(-2, 6, 3)$$

Assignment:

Page 224 # 1 – 3, 8, 10

Show your work.

Use elimination to solve each system of equations.

1. $\begin{cases} -2x + y + 3z = 20 \\ -3x + 2y + z = 21 \\ 3x - 2y + 3z = -9 \end{cases}$

2. $\begin{cases} x + 2y + 3z = 9 \\ x + 3y + 2z = 5 \\ x + 4y - z = -5 \end{cases}$

3. $\begin{cases} x + 2y + z = 8 \\ 2x + y - z = 4 \\ x + y + 3z = 7 \end{cases}$

8. $\begin{cases} 2x - y - 3z = 1 \\ 4x + 3y + 2z = -4 \\ -3x + 2y + 5z = -3 \end{cases}$

10. $\begin{cases} 4x + 7y - z = 42 \\ -2x + 2y + 3z = -26 \\ 2x - 3y + 5z = 10 \end{cases}$