

Bell Work

For #1 and 2, use $f(x) = x^2 - 6x + 1$.

1. $f(5) =$

2. $f(-2) =$

3. What is a function?

4. $\left(\frac{16a^4bc^2}{2a^7b^5c^{-3}} \right)^{-2}$

Share a half sheet of paper with someone around you.

Chapter 2: Linear Functions

This chapter, you will...

Solve equations, inequalities, and word problems,

Use proportional reasoning,

Graph linear functions and inequalities,

Write linear functions,

Solve absolute value equations and inequalities, and

Graph absolute functions.

In this lesson, you will solve equations.

$$35 = -3(y - 5)$$

$$4c - 9 = 9c + 15 - 2c$$

$$6x + 10 = -2x + 26$$

$$\frac{1}{3}f + 6 = \frac{3}{4}f - 5$$

Solve this equation.

$$\begin{array}{r} 6x + 10 = -2x + 26 \\ + 2x \qquad \qquad + 2x \\ \hline \end{array}$$

*Get rid of one of the variables, by doing the opposite.
Get rid of the smaller one, so there is no negative variables.*

$$\begin{array}{r} 8x + 10 = 26 \\ - 10 \quad - 10 \\ \hline \end{array}$$

Get rid of 10 by doing the opposite.

$$\begin{array}{r} 8x = 16 \\ \hline 8 \quad 8 \end{array}$$

Get rid of 8 by doing the opposite.

$$x = 2$$

Solve this equation.

$$4c - 9 = 9c + 15 - 2c \quad \text{Combine the variables on the same side.}$$

$$4c - 9 = 7c + 15$$

$$\begin{array}{r} -4c \quad -4c \\ \hline \end{array}$$

Get rid of the smaller variable.

$$-9 = 3c + 15$$

Get rid of 15 by doing the opposite.

$$\begin{array}{r} -15 \quad -15 \\ \hline \end{array}$$

$$\begin{array}{r} -24 = 3c \\ \hline 3 \quad 3 \end{array}$$

Get rid of 3 by doing the opposite.

$$-8 = c \quad c = -8$$

Solve this equation.

$$35 = -3(y - 5)$$

Do the Distributive Property.

$$35 = -3y + 15$$

$$\begin{array}{r} -15 \\ \hline \end{array} \quad \begin{array}{r} -15 \\ \hline \end{array}$$

Get rid of 15 by doing the opposite.

$$\begin{array}{r} 20 \\ \hline -3 \end{array} = \begin{array}{r} -3y \\ \hline -3 \end{array}$$

Get rid of 3 by doing the opposite.

$$-\frac{20}{3} = y$$

Keep the answer in fraction form, since the decimal is a repeating decimal. No repeating decimals in Alg. II. Also, don't change to a mixed fraction; keep improper.

Solve this equation.

$$7(f - 5) - 2(2f - 4) = 11 \quad \text{Do the Distributive Property twice.}$$

$$7f - 35 - 4f + 8 = 11 \quad \text{Combine the variables on the same side.}$$

$$3f - 27 = 11$$

$$\begin{array}{r} + 27 + 27 \\ \hline \end{array}$$

Get rid of 27 by doing the opposite.

$$\frac{3f}{3} = \frac{38}{3}$$

Get rid of 3 by doing the opposite.

$$f = \frac{38}{3}$$

Repeating decimal; keep the answer in fraction form.

Solve this equation.

$$\frac{3}{2}x - 8 = 3x + 7$$

Eliminate the fraction by multiplying everything by the denominator.

$$(2) \frac{3}{2}x - 8 = 3x + 7 \quad (2)$$

Make sure every term gets multiplied.

$$3x - 16 = 6x + 14$$

$$\begin{array}{r} -3x \qquad \qquad -3x \\ \hline \end{array}$$

Get rid of the smaller variable.

$$-16 = 3x + 14$$

$$\begin{array}{r} -14 \qquad \qquad -14 \\ \hline \end{array}$$

Get rid of 14 by doing the opposite.

$$-30 = 3x$$

Get rid of 3 by doing the opposite.

$$\begin{array}{r} -30 = 3x \\ \hline 3 \qquad 3 \end{array}$$

$$-10 = x$$

Solve this equation.

$$\frac{1}{3}f + 6 = \frac{3}{4}f - 5$$

Eliminate the fractions by multiplying everything by the LCM of the denominators.

$$(12)\frac{1}{3}f + 6 = \frac{3}{4}f - 5(12)$$

Make sure every term gets multiplied.

$$4f + 72 = 9f - 60$$

$$\begin{array}{r} -4f \qquad -4f \\ \hline \end{array}$$

Get rid of the smaller variable.

$$\begin{array}{r} -30 = 3x \\ \hline 3 \qquad 3 \end{array}$$

Get rid of 3 by doing the opposite.

$$\begin{array}{r} 72 = 5f - 60 \\ +60 \qquad +60 \\ \hline \end{array}$$

Get rid of 14 by doing the opposite.

$$-10 = x$$

$$-30 = 3x$$

Solve this equation.

$$\frac{5}{2}(y - 3) = \frac{1}{6}y + 1$$

Eliminate the fractions by multiplying everything by the LCM of the denominators.

$$(6) \frac{5}{2}(y - 3) = \frac{1}{6}y + 1 \quad (6)$$

Make sure every term gets multiplied. Since both terms on the left side are to be multiplied, you only need to multiply once.

$$15y - 45 = y + 6$$

$$\begin{array}{r} -4y \qquad \qquad -y \\ \hline \end{array}$$

Get rid of the smaller variable.

$$14y - 45 = 6$$

$$\begin{array}{r} +45 +45 \\ \hline \end{array}$$

Get rid of 45 by doing the opposite.

$$14y = 51$$

Get rid of 14 by doing the opposite.

$$\begin{array}{r} 14y = 51 \\ \hline 14 \quad 14 \\ y = \frac{51}{14} \end{array}$$

Assignment:
Solving Equations Worksheet