

Name: _____

Date: _____

Solving Algebra Equations

Section A – Solving One Step Equations

Solve each equation.

(a) $w + 4 = 10$ $w =$ _____

(b) $y - 2 = 9$ $y =$ _____

(c) $6m = 42$ $m =$ _____

(d) $a - 25 = 5$ $a =$ _____

(e) $\frac{b}{5} = 40$ $b =$ _____

(f) $5 + k = 12$ $k =$ _____

One Step Addition Example

The Opposite of Addition is Subtraction

$$\begin{array}{r} y + 14 = 20 \\ -14 \quad -14 \\ \hline y = 6 \quad \checkmark \end{array}$$

The value which makes the equation true is 6.

ONE STEP SUBTRACTION EXAMPLE

The Opposite of Subtraction is Addition

$$\begin{array}{r} x - 120 = 80 \\ +120 \quad +120 \\ \hline x = 200 \quad \checkmark \end{array}$$

The value which makes the equation true is 200.

Multiplication Example

The Opposite of Multiplication is Division

$$\begin{array}{r} 3n = 12 \\ \cancel{3}n = \cancel{12} \\ \hline n = 4 \quad \checkmark \end{array}$$

$\frac{3}{3}$ cancels down to become $\frac{1}{1} = 1$
It is simply "n"

The value which makes the equation true is 4.

One Step Division Example

The Opposite of Division is Multiplication

$$\begin{array}{r} \frac{k}{2} = 16 \\ \times 2 \quad \times 2 \\ \hline k = 32 \quad \checkmark \end{array}$$

k is divided by 2, so we need to multiply both sides by 2
 $\frac{2}{2}$ cancels down to become $\frac{1}{1} = 1$
It is simply "k"

The value which makes the equation true is 32.

Section B – Solving Two Step Equations

Solve each question.

(a) $6a + 2 = 20$ $a =$ _____

(b) $2d + 4 = 10$ $d =$ _____

(c) $4z - 8 = 8$ $z =$ _____

(d) $3c - 6 = 15$ $c =$ _____

(e) $\frac{r}{4} + 4 = 3$ $r =$ _____

(f) $4(m - 6) = 16$ $m =$ _____

BONUS (g) $4e + 5 = 14 + e$ $e =$ _____

1 WHICH TERM IS A LIKE TERM TO 35?

2 -15 IS THE LIKE TERM. SO -15.

3 4x + 15 = 35

4 -15 -15

5 4x = 20

6 4 4

x = 5!

7 WHAT IS HAPPENING TO x?

8 x IS BEING MULTIPLIED BY 4. SO DIVIDE BY 4.

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Section C – Application Problems



1. Tony had \$ z . He lost \$3.

- a) Write an algebraic expression for the amount he has left.

Answer: \$ _____

Tony now has \$2 left.

- a) Write an algebraic equation to show all of this information.

Answer: \$ _____

- b) Solve your equation formed in (b) to find ' z '.

Answer: z = _____

2. Brianna thinks of a number y , she multiplies it by 2 then subtracts 5.



- a) Write an expression to show the number Brianna is thinking of.

Answer: _____

The answer that Brianna gets is 7.

- b) Write an equation to show this information.

Answer: _____

- c) Solve your equation to find the value of ' y '.

Answer: y = _____