

Solve and Graph when necessary.

1) $7k = 4k + 15$

5) $36 + 6m \leq 3m$

2) $4m + 2 = 3m$

6) $8w \leq 4w - 6$

3) $5x - 2 = 3x + 4$

7) $7p - 6 < 8p + 9$

4) $5 + 3y = 7y - 3$

8) $4x - 5 \leq 7x + 13$

DON'T WRITE THE FOLLOWING DOWN.

*All we have to decide is what to do with
the time that has been given to us.*

What is this?

It's a quote or a sentence...

which is made up of words,

which is made up of letters.

DON'T WRITE THE FOLLOWING DOWN.

Equations

$$5x + 18 - 8x = 12 - 10x$$

In general, Mathematics is another language with its own set of symbols.

Terms are the essential parts of mathematics, just as letters and words are to our language.

Expressions are made up of terms joined together through addition and subtraction.

Equations are made up of two expressions set equal to each other.



Equation

$$\boxed{5x} + \boxed{18} - \boxed{8x} = \boxed{12 - 10x}$$

Terms

Expression

Know the Difference

Expressions

No equal signs.

Simplify Expressions.

$$2(x - 3)$$

$$2x - 6$$

Equations

Equal signs.

Solve Equations.

$$2(x - 3) = 18$$

$$2x - 6 = 18$$

$$2x = 24$$

$$x = 12$$

Know the Difference

Expressions

$$4x - 5 - x$$

$$3x - 5$$

Equations

$$4x - 5 - x = -7 + x + 18$$

$$3x - 5 = x + 11$$

$$2x = 16$$

$$x = 8$$

Equation

$$5x + 18 - 8x = 12 - 10x$$

Expressions

Know the Difference

Expressions

No equal signs.

Simplify Expressions.

Equations

Equal signs.

Solve Equations.

Simplify Expressions
within an Equation.

Steps to Solve an Equation - Unravel the TRUTH

1) Make it Simple to Solve.

- ☐ Distribute
- ☐ Combine Like Terms

2) Apply the Undoing Process

- ☐ Add  Subtract
- ☐ Multiply  Divide
- ☐ Fractions  Reciprocals

Follow these Steps to Solve an Equation

1) Make it Simple to Solve.

☐ Distribute

$$6x - 4(-3x + 2) = 10$$

☐ Combine Like Terms

$$6x + 12x - 8 = 10$$

2) Unravel the TRUTH – Apply the Undoing Process

☐ Add  Subtract

$$18x - 8 = 10$$

☐ Multiply  Divide

$$18x = 18$$

☐ Fractions  Reciprocals

$$x = 1$$

Solve each Equation.

9) $\frac{2}{3}x + 6 = -8$

10) $7x - 3x - 8 = 24$

11) $5x + 3(x + 4) = 28$

12) $4x - 3(2x - 2) = -8$



Solve and Check each Equation.

13) $-3x - 5x - 6 + 11 = 2x - 5$

14) $4(k - 3) - k = k - 6$

15) $8m - (3 + 2m) = 3m + 1$

16) $4(8 - 3p) = 32 - 8(p + 2)$

Solve and Graph each Inequality.

17) $3x + 2 - 5 < -x + 7 + 2x$

18) $5y - y + 2 < 7y - 5$

19) $5(x - 3) - 7x \geq 4(x - 3) + 9$

20) $4(w - 1) - 3w > -15 - (2w + 1)$ 