

**Mermaids Favorite Subject!!!!!! Algebra**

# Algebra I for FRESMEN

Don't tolerate being called a stupid freshmen again, use the Mermaids Favorite Book.

Created By:



# Table of contents

|                   |         |
|-------------------|---------|
| PEMDAS            | Page 1  |
| THE P IN PEMDAS   | Page 2  |
| THE E IN PEMDAS   | Page 3  |
| MDAS              | Page 4  |
| TRY THEM          | Page 5  |
| EQUATIONS         | Page 6  |
| ONE STEPPER       | Page 7  |
| TRY THEM          | Page 8  |
| TWO STEPPER       | Page 9  |
| TRY THESE         | Page 10 |
| COMPLEX EQUATIONS | Page 11 |



FOR EXAMPLE Page 12

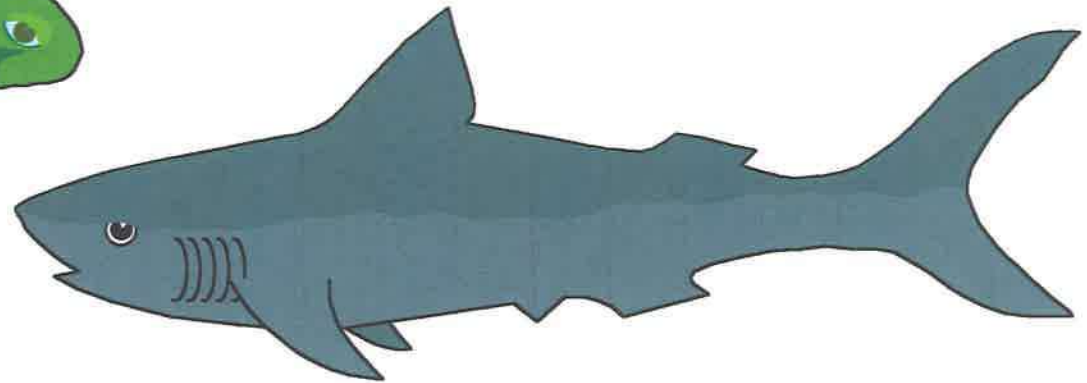
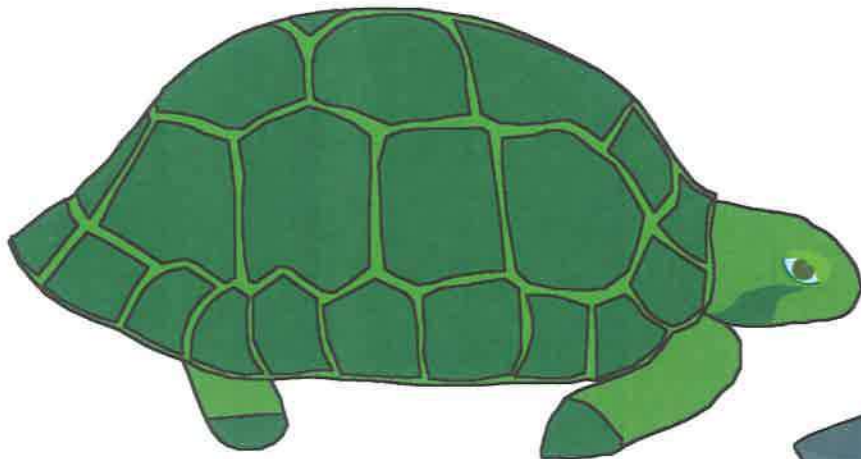
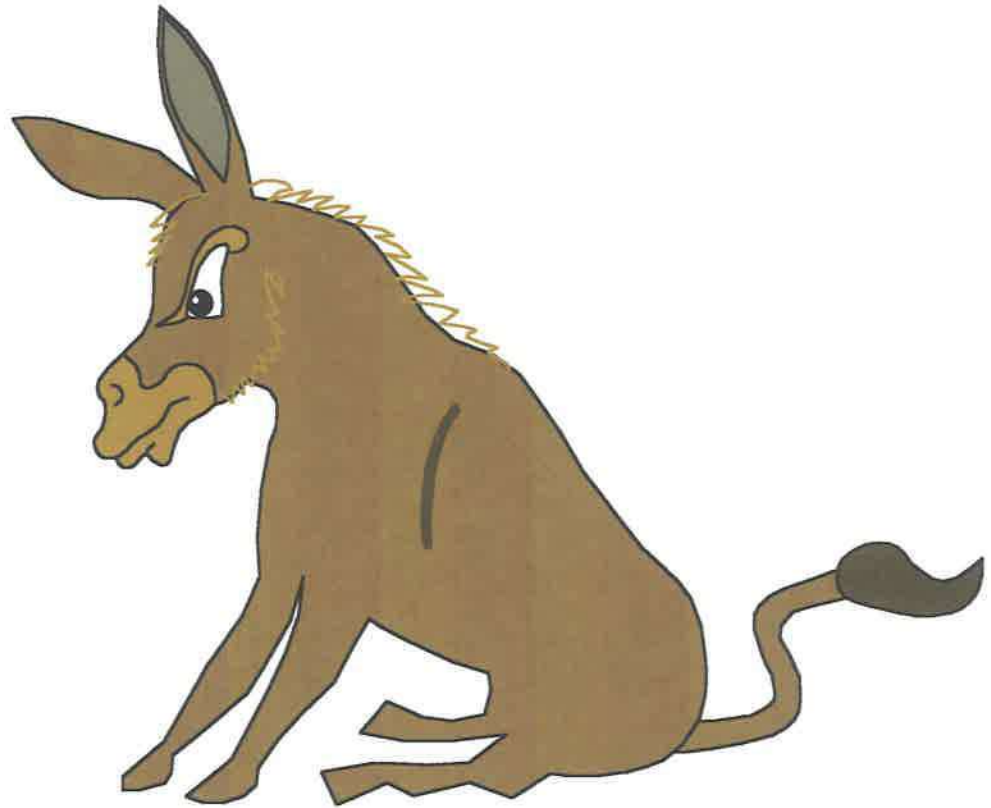
THERE IS MORE Page 13

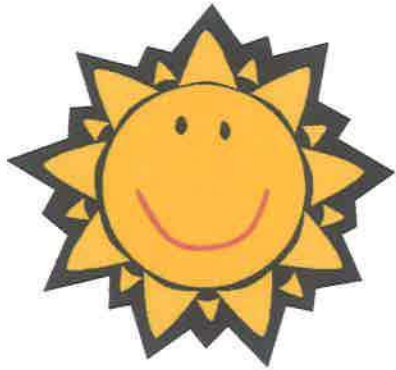
POLYNOMIALS Page 14

TRY THESE Page 15

POLYNOMIALS Page 16

MULTIPLY 'EM Page 17





**P.E.M.D.A.S.**

**PEMDAS is what we use  
to describe what operation  
we should do first when  
solving a problem.**



**Parenthesis**

**Exponent**

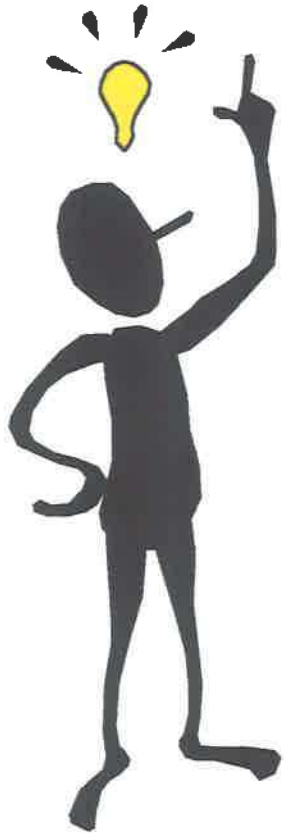
**Multiplication**

**Division**

**Addition**

**Subtraction**

# The P. In PEMDAS



**When Solving a problem you always solve, starting in the PARENTHESIS.**

**EXAMPLE**

**$(2+5)=$       Solve In the ( )**

**Answer Is: 7**

# The E. of PEMDAS

**Exponent** is the second thing to think about when solving Problems.

**EXAMPLE:**



A blue oval with a diagonal slash through it, indicating an incorrect calculation. Inside the oval, the equation  $3^3 = 9$  is written in black text.

A blue oval containing the equation  $3^3 = 27$  in black text, indicating the correct calculation.





**The M,D,A,S  
are all simple  
things you  
should know.**



**Now You Have The key  
to Solving problems.**

$$3(3)=9$$

$$3/3=1$$

$$3+3=6$$

$$3-3=0$$

**Solve in the parenthesis only:**

$$3(4+7)=$$

$$(45-90)=$$

$$60(2 )=$$

**Solve for Exponents:**

$$4^9 =$$

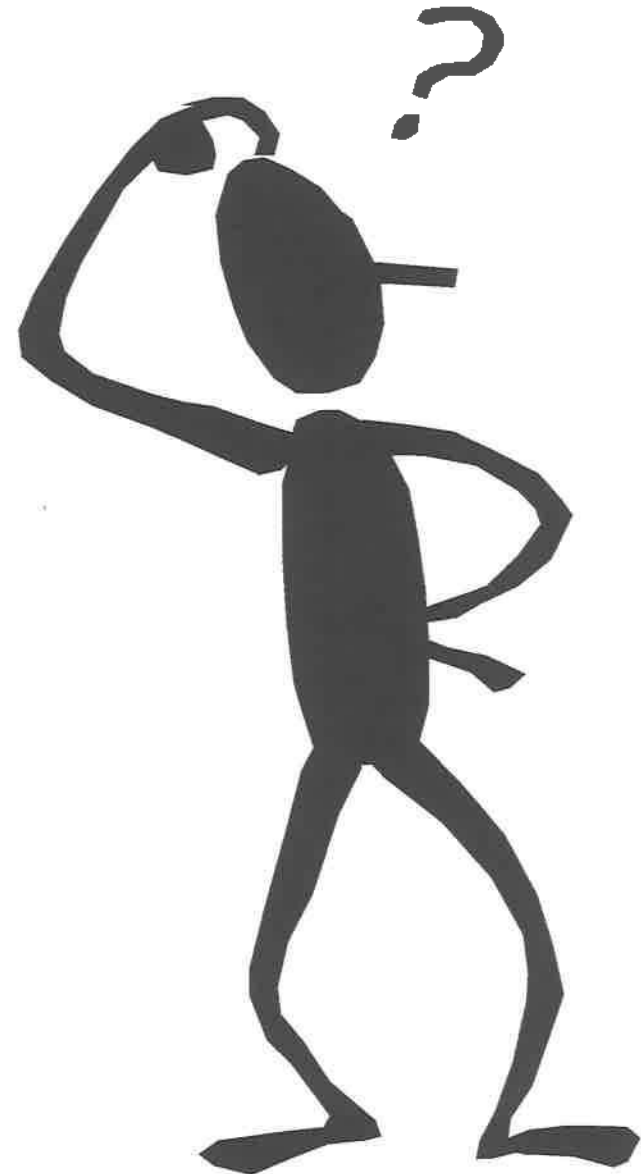
$$6^0 =$$

$$5^5 =$$

**Solve the following problems:**

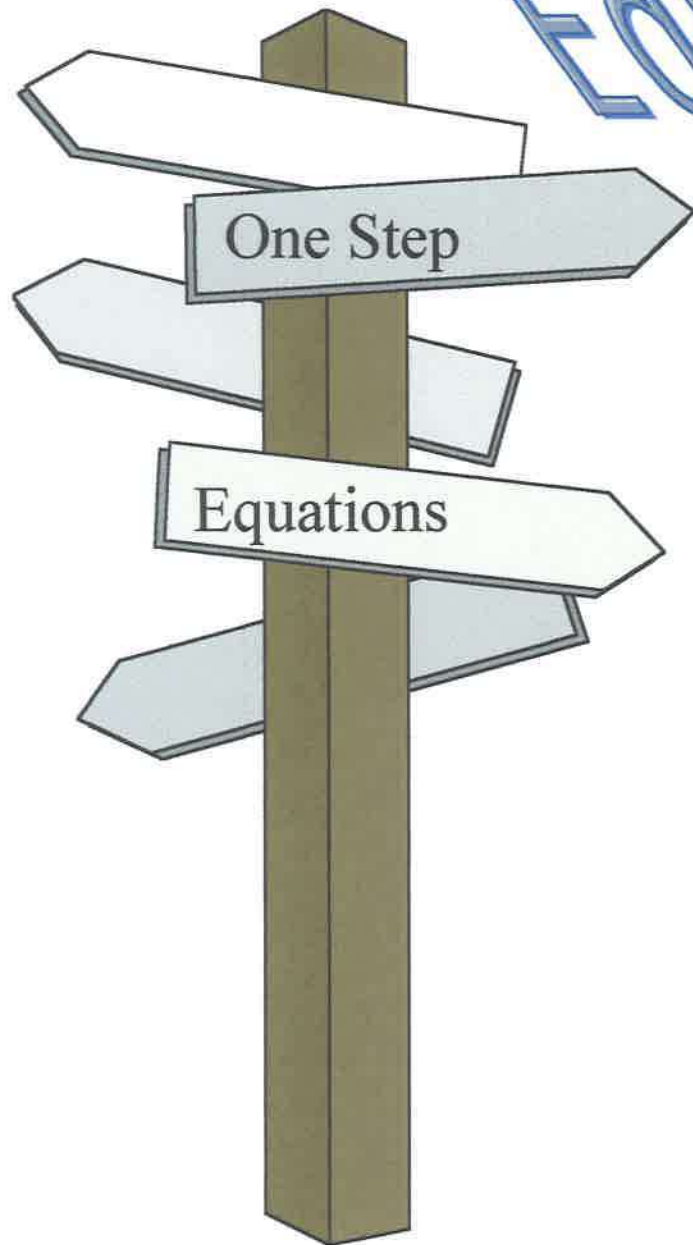
$$4+6(5/6+7-9)^4=$$

$$78+89^5-63(85)=$$





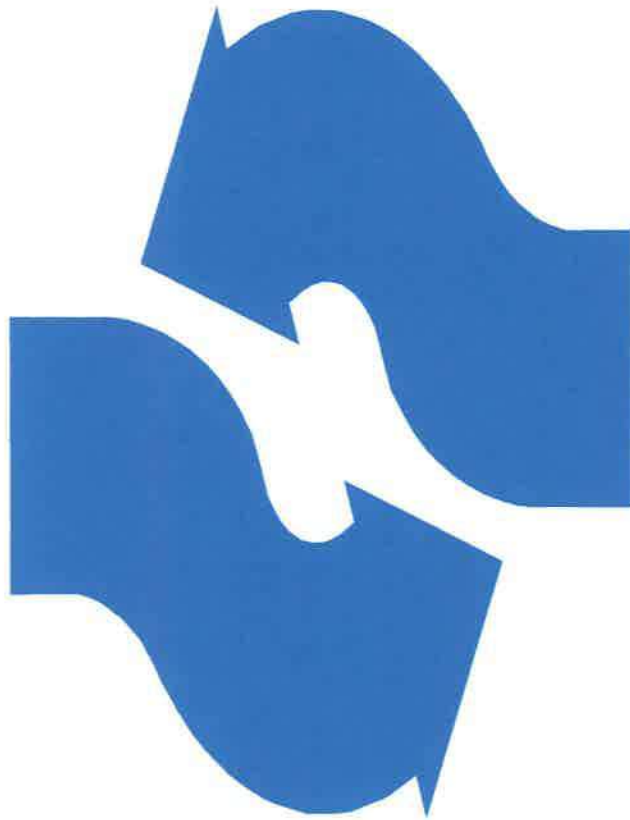
# Equations



Equations have what is called a coefficient and a variable, what you solve for in an equation is the # that the variable equals to.

In an a equation you always treat both sides of it the same.

# One Stepper



In an equation, to get the variable by itself, you have to do the opposite operation than the one is happening

Example

$$3x=6$$

There is a multiplication going on so divide

$$3/3=6/3$$

$$\text{Answer}=2$$

*Try 'em*

$$2x=6$$

$$25x=5$$

$$10x=10$$

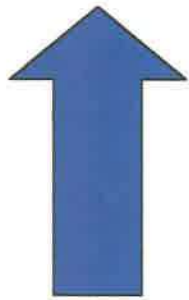
$$5x=10$$

$$6x=36$$



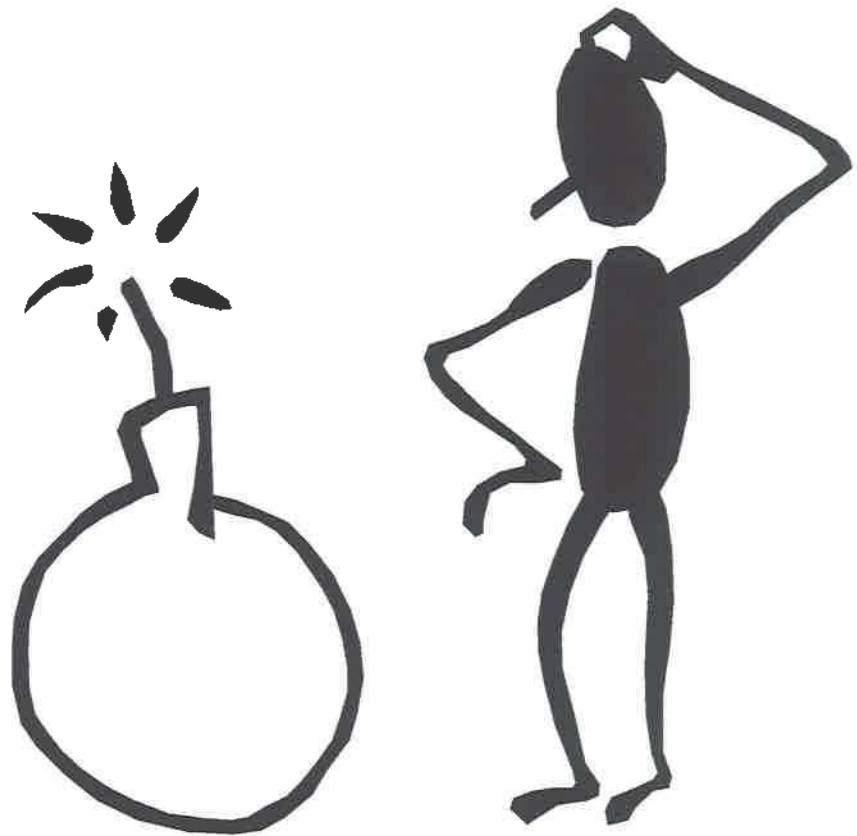
# Two Steppers

To solve two equations is almost the same as to solve 1 step equations the only thing you have to consider is doing the addition or subtraction before you divide or multiply



Sound familiar?

PEMDAS?



# Try These

$$2x+5=10$$

$$3x-10=36$$

$$10x+10=10$$

$$15x+7=20$$



# Complex Equations

Equations with fractions are complex, also those with variables on both sides are complex.

When there are fractions in an equation you can either solve it with fractions or multiply the whole equation by the most common Denominator



# For Examples

$$\frac{1}{3}x + \frac{2}{3} = 10$$

Most common denominator is  
3

Try these

$$\frac{1}{3} + \frac{1}{6}x = 10$$

$$\frac{1}{8} + \frac{1}{9} = 20$$





# There is more

Also equations like this are complex:

$$2x + 20x = 10x + 2 \quad \longrightarrow$$

the way to solve is to get all variables together on each side. Then subtract the variable from both sides to unite it with its friend on the other side. Then solve as regular equation

EXAMPLE:

$$22x = 10x + 2$$

$$-10x \quad -10x$$

$$12x = 2$$

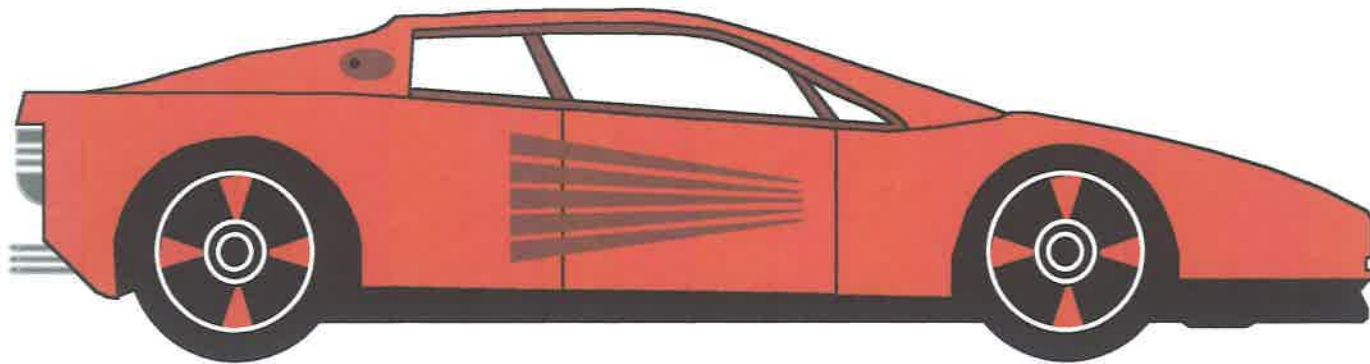
then proceede try to get the answer for this equation

# Try These

$$2x=4x+5+8$$

$$2x+3x-5x=10x+4$$

$$10x-10x+10x=10x+10x$$



# Polynomials

A polynomial is simply a number with a variable.

A polynomial looks like this.

$$2x^3$$

There are many Polynomials

Example:

1 term= Trinomial

2 terms= Binomial

3 terms= Trinomial and so on.

Identify the following:

$$2x+4x+67$$

$$2x$$

$$3x-6x-0$$

$$2x+2x$$