

B E D M A S
 () exp \div \times $+$ $-$

Add \ Subtract RULES: You can only + or - MATCHING TERMS

(ex: Same letters or just plain #)...The sign LEFT of the term belongs to it and must move with it.

EX: $5a + 7 - 2a - 1$ \longrightarrow so we can move them and it looks like: $5a - 2a + 7 - 1$

\longrightarrow $3a + 6$ \longleftarrow

FINAL ANSWER!!

VIP words:

Expression: An algebraic sentence where you $+$ $-$ \times \div algebraic terms

THERE IS NO = SIGN!!

Simplify: Using **BEDMAS**, you make an expression smaller

ALGEBRA (SIMPLIFYING)**VIP INFORMATION:**

$-(\quad)$  when you have a negative sign in front of a bracket **ALL THE SIGNS INSIDE CHANGE!**...after BEDMAS is done inside 1st

$$-(-9) = +9$$

$$-(7x) = -7x$$

B E D M A S

() exp \div \times + -

Multiply \ Divide RULES: ANYTHING GOES!!..It doesn't need to match! You can \times or \div **the #** and drag the letters to the end

HOW IT LOOKS:MULTIPLICATION: $5 \times 10a$ OR $5 \bullet 10a$ OR $5(10a)$ DIVISION: $14x \div 7$ OR $\frac{14x}{7}$

EX: $5(10a) = 50a$

$\frac{14x}{7} = 2x$

$7a(8w) = 56aw$

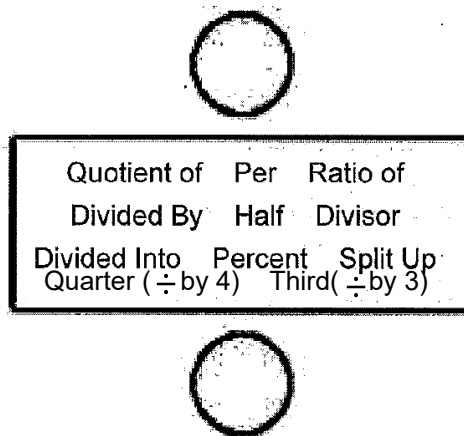
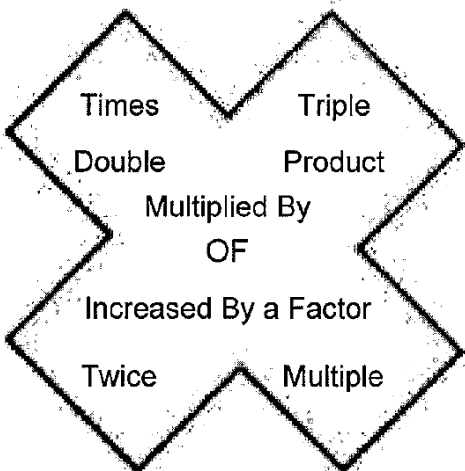
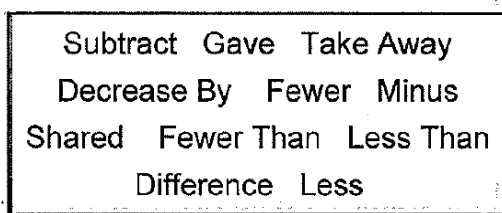
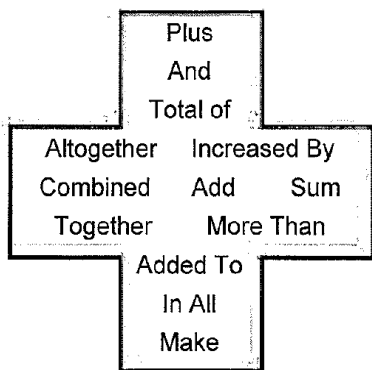
EX: $6(2x + 5)$
 $= 12x + 30$

$\frac{12a - 16}{4} \div = 3a - 4$

VIP: When you \times the same letter..add the exponent $\longrightarrow 5a(6a) = 30a^2$

When you \div the same letter...subtract the exponent $\longrightarrow \frac{15x}{5} = 3$

MATH DICTIONNARY: English words to BEDMAS operations



EVALUATION / EVALUATE

= Substitute letters for their assigned # value...Calculate
to get a # answer.

FOLLOW BEDMAS!!!!

EX: $4a = 4 \times a = 4(a)$ it's a multiplication!

so if $a = 6$...it's now 4×6 or $4(6) = 24$

$$X^2 = X \times X = (X)(X)$$

so if $x = 5$...it's now $5^2 = (5)(5) = 25!$

****VIP**** - (m) !!! The negative changes the sign inside!

so if $m = -3$ -(-3) becomes +3!

ALGEBRA ---- SOLVING

All equations have a LEFT side, an = sign and a RIGHT side

$$\begin{array}{ccc}
 \text{left} & & \text{right} \\
 \leftarrow & & \leftarrow \\
 2x + 3x + 20 & = & 70
 \end{array}$$

Your GOAL is to get the "X" alone AND positive on 1 side

BUT!!! You never move the = sign...EVER!!!

HOW TO SOLVE:

#1) **Simplify** on the LEFT or RIGHT side if you can (do BEDMAS!!!)

#2) MOVE all the variables(letters) onto 1 side (Change signs when moved)

SIMPLIFY HERE if needed

#3) MOVE addition and subtractions AWAY from the VARIABLE (letter) side

HOW?.....Throw them over the = sign **BUT!** change the sign on the other side **+ becomes -** **- becomes +**

#4) ELIMINATE the \times and the \div from the VARIABLE side.

HOW?.....Cancel it out by doing the opposite of the operation

X becomes \div & \div becomes X
--

#5) IF the variable (letter) is negative at the END \div everything by -1

WORD PROBLEMS

- 1) Circle your subjects...underline any BEDMAS words like half, less than, more than, younger than, older than, twice ect...
- 2) The subject you know nothing about...**THAT'S YOUR " X "**
- 3) Translate the other subjects into algebraic expressions, **make an equation and solve it!**

subject subject: I know nothing about her...she's my X
 ↓ ↓ **THAT'S +5 !!!** ↓ ↓ **THAT'S TOTAL!!!**
EX; Josh is 5 years older than Amy. Their ages combined is 35 yrs.
How old are they?

NOW..

set-up box

AMY: X
JOSH : X + 5

MAKE AN EQUATION THAT = THE TOTAL

$$\begin{array}{r}
 \begin{array}{ccc}
 \downarrow & \downarrow & \downarrow \\
 X + X + 5 & = & 35 \\
 \downarrow & \downarrow & \downarrow \\
 2x + 5 & = & 35 \\
 \downarrow & \downarrow & \downarrow \\
 2x & = & 30 \\
 \downarrow & \downarrow & \downarrow \\
 2 & & 2
 \end{array}
 \end{array}$$

$$\begin{array}{c}
 \bullet \longrightarrow x = 15 \longleftarrow \bullet
 \end{array}$$

CONSECUTIVE #'S

DEF: Numbers that follow each other in a pattern

ex: 11,12,13 or 15,20,25,30 or 21, 23, 25

HOW TO START?

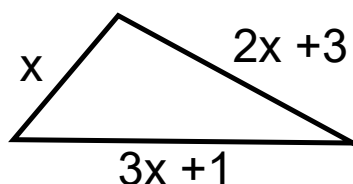
Choose among these 2 common set-up boxes

Consecutive #'s
(all #'s)

1st # = X
2nd # = X +1
3rd # = X+2

Consecutive odd
OR even #'s

1st # = X
2nd # = X +2
3rd # = X+4

SOLVING WITH SHAPES

perimeter is 52 cm

How long is each side?

HOW TO SOLVE? → Create an equation for perimeter!

step 1 : add up all sides and make it = the perimeter given

$$x + 2x + 3 + 3x + 1 = 52 \text{ cm}$$

step 2: SOLVE IT!

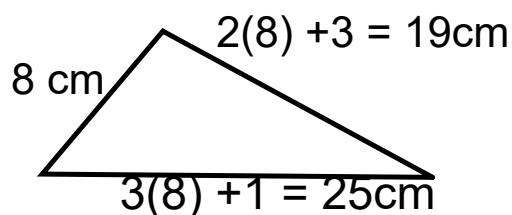
$$6x + 4 = 52 \text{ cm}$$

$$6x = 52 \text{ cm} - 4$$

$$\div \frac{6x}{6} = \frac{48 \text{ cm}}{6} \div$$

$$x = 8 \text{ cm!}$$

step 3: SUBSTITUTE! all the x's are now worth 8cm!



All the sides have add up to the perimeter!

$$8 + 19 + 25 = 52 \text{ cm!!!}$$

REMEMBER!!!

SOLVING

Find out what "x" is

ex: $3x+2=47$

$$3x = 47-2$$

$$3x = 45$$

$$\div \left(\frac{3x = 45}{3 \quad 3} \right) \div$$

$$x = 15$$

SIMPLIFYING

Match up what goes together...

Use BEDMAS!

THERE IS NO = SIGN!!!!!!!!!!!!!!

$$2(3x + 4) + 5x - 10$$

$$\begin{array}{ccccccc} \textcircled{6x} & \boxed{+ 8} & + & \textcircled{5x} & \boxed{- 10} & & \\ & \swarrow & & \searrow & \swarrow & & \\ & 6x & + & 5x & + & 8 & - 10 \end{array}$$

$$6x + 5x + 8 - 10$$

$$11x - 2$$

DONE!!

