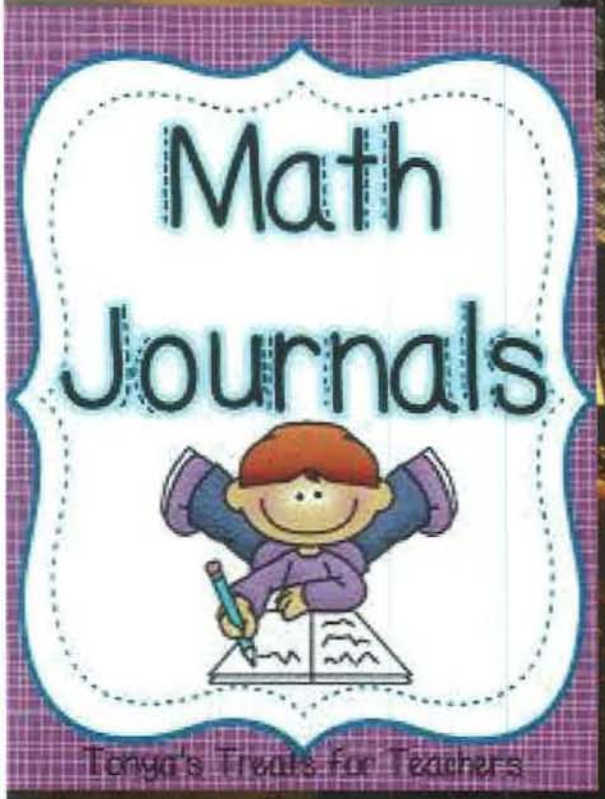
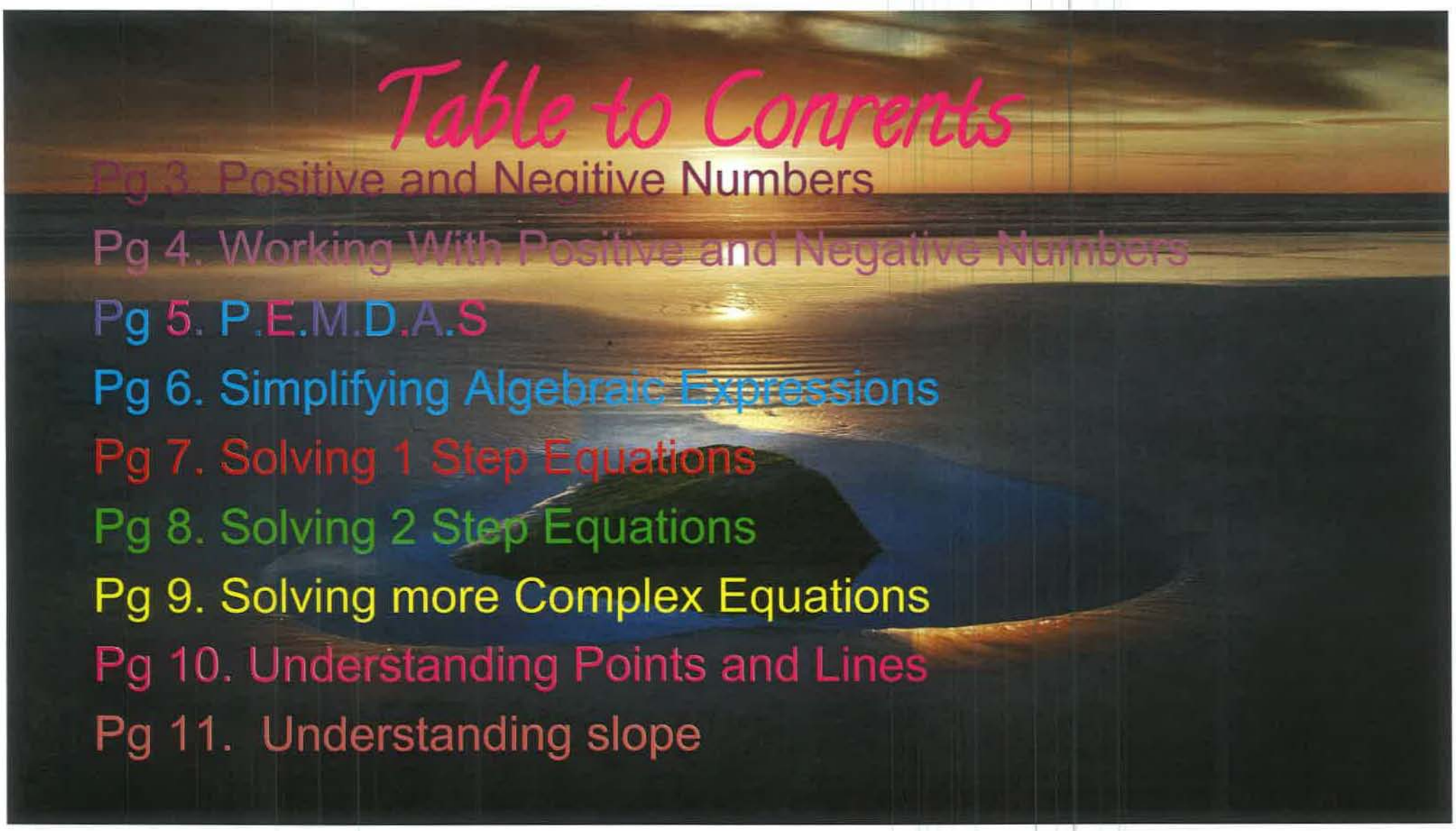
My Textbook



By 86% missing sections



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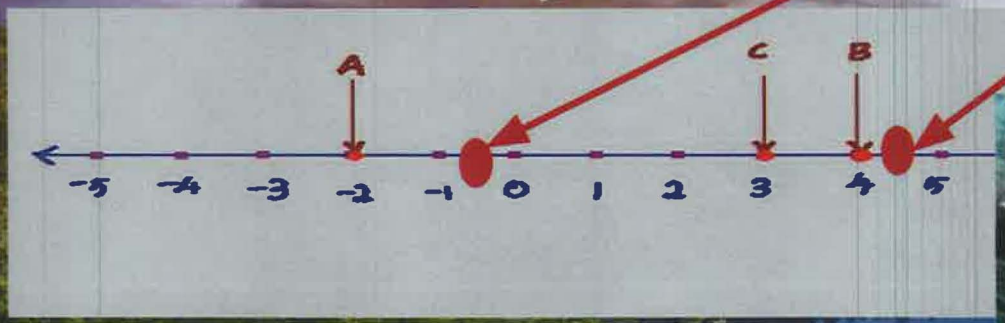
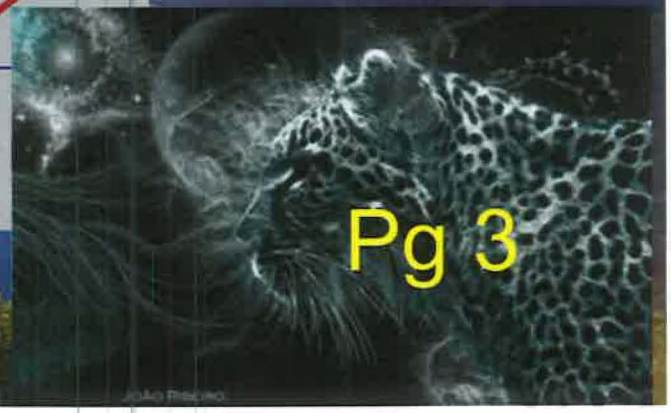
positive and negative numbers

Fractions
are between the INTEGERS on the number line

Example: -½ and 4 ¼

Integers
do NOT have a fraction part and can be either positive or negative
Examples:
A=-2
B=+4
C=+3





working with positive and negative numbers

Addition

3 + 2 = +5

-5 + 3 = -2

-4 + 8 = +4

-8 + (-2) = -10

Subtraction

The rule is to change subtraction to addition and add the opposite.

Examples:

-3-2 = -3 + (-2) = -5

5-(-2) = 5 + 2 = 7

Division

+10 / +2 =5

+20 / -2 = -10

-12 / +2 = -6

-40 /-5 = 8

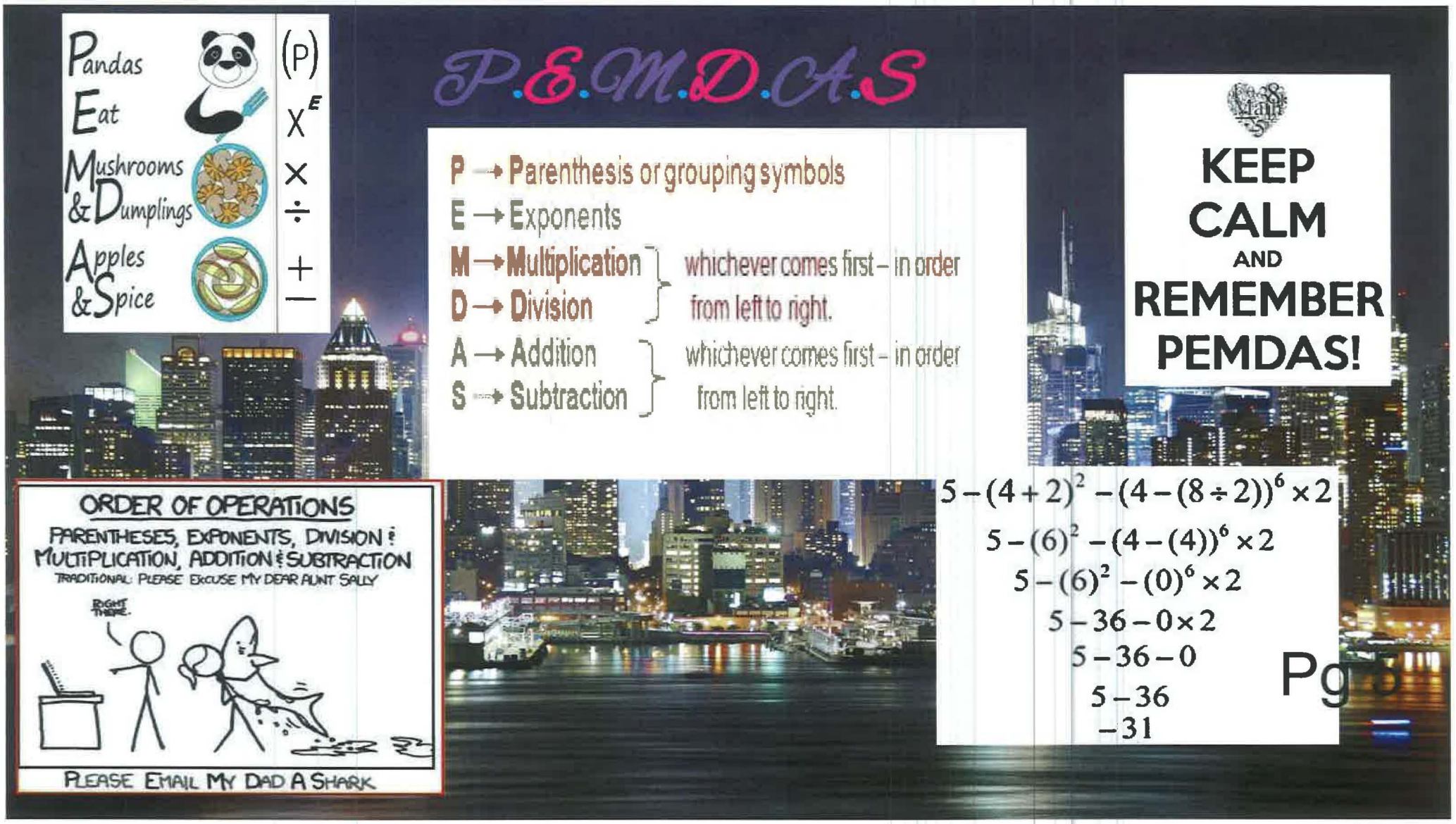
multiplication

+1 x +2 = 2

+2 x -2 = -4

-3 x +2 = -6

-4 x -2 = 8


Pandas
Eat
Mushrooms
& Dumplings
Apples
& Spice
(P)
x^E
×
÷
+
−
P.E.M.D.A.S
P → Parenthesis or grouping symbols
E → Exponents
M → Multiplication
D → Division
whichever comes first – in order from left to right.
A → Addition
S → Subtraction
whichever comes first – in order from left to right.
KEEP CALM AND REMEMBER PEMDAS!
ORDER OF OPERATIONS
PARENTHESES, EXPONENTS, DIVISION & MULTIPLICATION, ADDITION & SUBTRACTION
TRADITIONAL: PLEASE EXCUSE MY DEAR AUNT SALLY
RIGHT THERE.
PLEASE EMAIL MY DAD A SHARK
$5-(4+2)^2-(4-(8\div 2))^6\times 2$
$5-(6)^2-(4-(4))^6\times 2$
$5-(6)^2-(0)^6\times 2$
$5-36-0\times 2$
$5-36-0$
$5-36$
-31
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simplifying algebraic expressions

2x AND 3x ARE like terms

2x AND 3y are NOT like terms

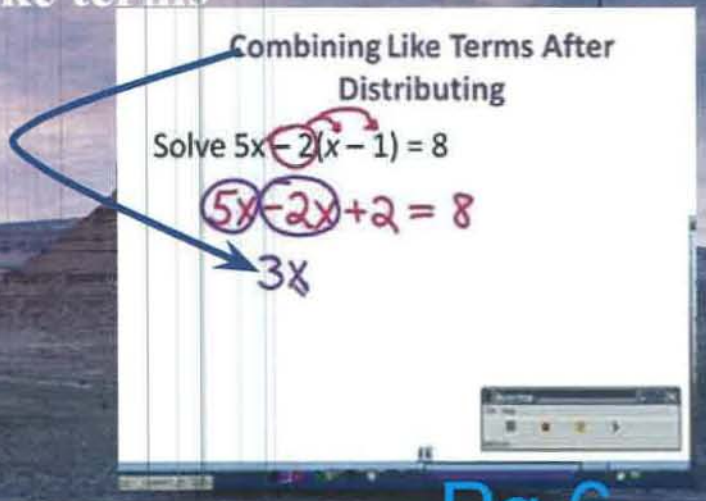
2x and $3x^2$ are NOT like terms

DISTRIBUTIVE PROPERTY

$2(3x-6) =$

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

$6x-12$



Solving 1 Step Equations

Addition

$$\begin{array}{r} y + 51 = 93 \\ -51 = -51 \\ \hline y = 42 \end{array}$$

subtraction

(1) $x - 6 = -11$

$+6 \quad +6$

(2) $x = -5$

Multiplication

Division

(1) $-3 \cdot \frac{x}{-3} = 4\frac{1}{3} \cdot -3$

(2) $x = \frac{13}{3} \cdot \frac{-3}{1}$

(3) $x = -13$

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Solving 2-Step Equations

Two Step Equations

$2x + 3 = 15$
$-3 \quad -3$
$\frac{2x}{2} = \frac{12}{2}$
$x = 6$

Doing a two stepper you have to

1. undo adding & subtracting
2. undo multiply & divide

$\frac{x}{5} + 7 = -3$
$-7 \quad -7$
$\frac{x}{5} = -10$
$\times 5 \quad \times 5$
$x = -50$

IMPORTANT:
Always check solutions in the original equation

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Check: x=4

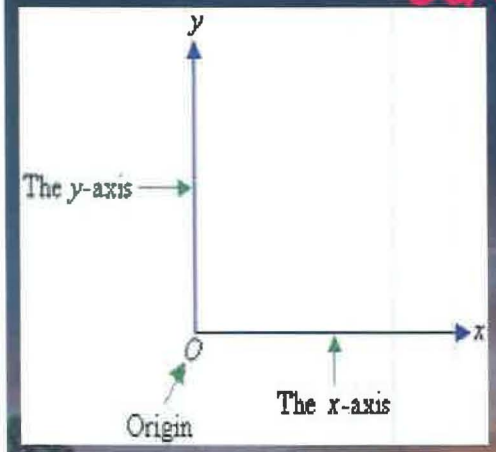
$-5x + 4 + 2x = 16$
$-5(-4) + 4 + 2(-4) = 16$
$20 + 4 + -8 = 16$
$16 = 16$ √

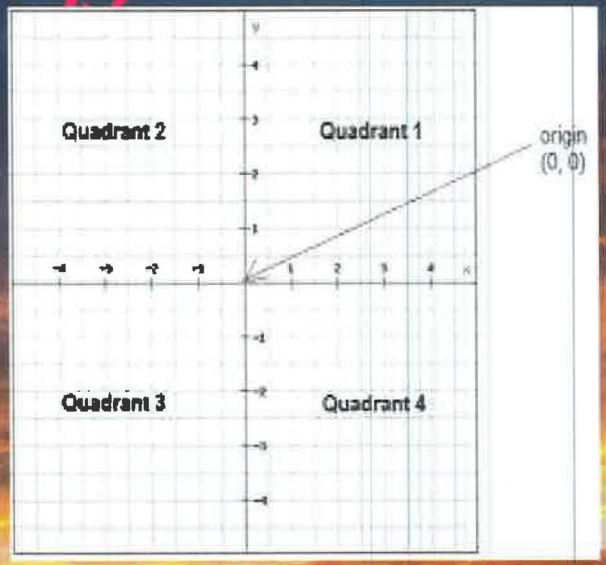
Solving More ComplexEquations

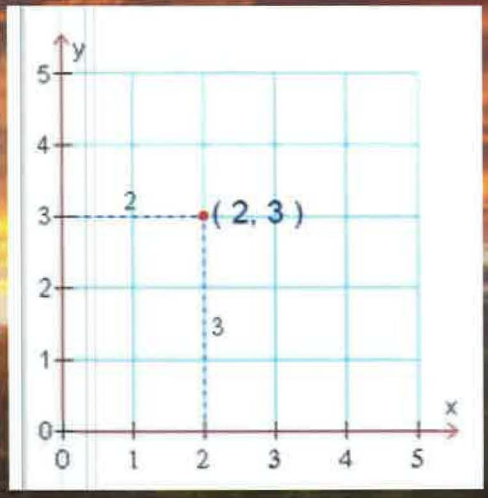
Multiple step equations with X on both sides:

Equations with a fraction in front of X:

Understanding points and lines







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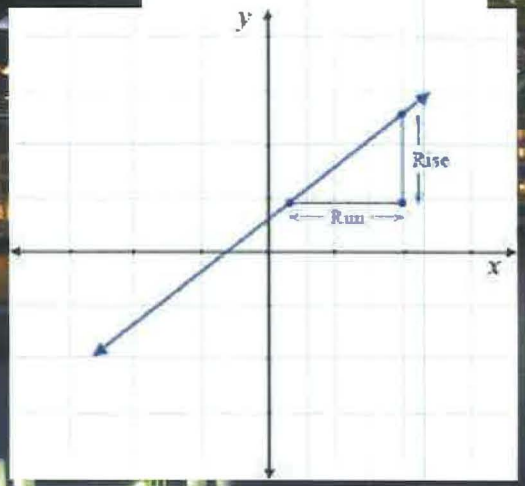
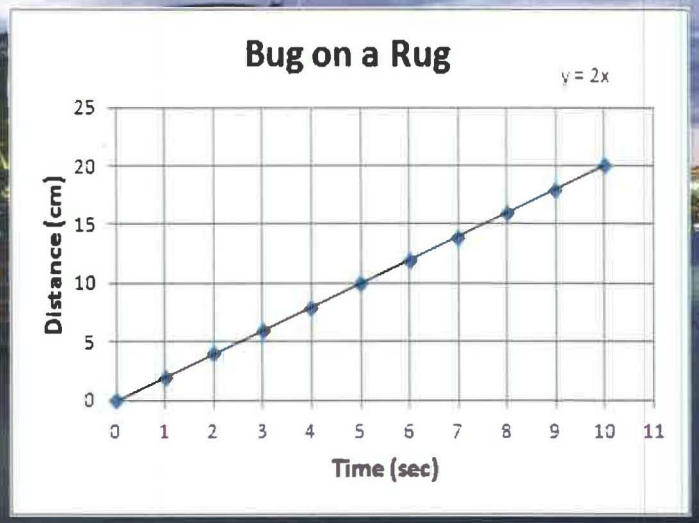
Understanding slope

Method 1:
Given a graph use:

m=rise/run





Method 2:
Given 2 points:

$$m = \frac{\Delta y}{\Delta x} = \frac{y_2 - y_1}{x^2 - x_1}$$

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