

Algebra I



10 STO \Rightarrow X Multiple
15 STO \Rightarrow Y choice
strategy

IF I involved, answer is always

Common Core High School Math Reference Sheet I except I.I and I-II \Rightarrow R or I

CONVERSIONS

1 inch = 2.54 centimeters

1 kilometer = 0.62 mile

1 cup = 8 fluid ounces

1 meter = 39.37 inches

1 pound = 16 ounces

1 pint = 2 cups

1 mile = 5280 feet

1 pound = 0.454 kilograms

1 quart = 2 pints

1 mile = 1760 yards

1 kilogram = 2.2 pounds

1 gallon = 4 quarts

1 mile = 1.609 kilometers

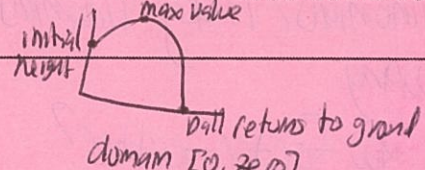
1 ton = 2000 pounds

1 gallon = 3.785 liters

1 liter = 0.264 gallon

1 liter = 1000 cubic centimeters

Completing the square m.l. x^2 wants to party.
 $(\frac{b}{2})^2$
 - Everyone to his house (everything to 1 side)
 - party with bubbles (factor)
 - Set each factor equal to zero
 * IF it doesn't factor, quadratic formula.



FORMULAS

Triangle	$A = \frac{1}{2}bh$	Pythagorean Theorem	$a^2 + b^2 = c^2$
Parallelogram	$A = bh$	Quadratic Formula	$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$
Circle	$A = \pi r^2$	Arithmetic Sequence	$a_n = a_1 + (n-1)d$
Circle	$C = \pi d$ or $C = 2\pi r$	Geometric Sequence	$a_n = a_1 r^{n-1}$
General Prisms	$V = Bh$	Geometric Series	$S_n = \frac{a_1 - a_1 r^n}{1 - r}$ where $r \neq 1$
Cylinder	$V = \pi r^2 h$	Radians	1 radian = $\frac{180}{\pi}$ degrees
Sphere	$V = \frac{4}{3}\pi r^3$	Degrees	1 degree = $\frac{\pi}{180}$ radians
Cone	$V = \frac{1}{3}\pi r^2 h$	Exponential Growth/Decay	$A = A_0 e^{k(t-t_0)} + B_0$
Pyramid	$V = \frac{1}{3}Bh$		

Solving Equations

Fractions (multiply by the LCD)
 Parenthesis (Distribute)
 Combine like terms
 bring all x to 1 side

isolate

- add/subtract first
 - divide last

The zeros/roots hit the x-axis
 The vertex is the turning point
 The Abs (axis of symmetry) cuts it in half ($x =$)

per/each x + one time fee

$$A = P(1 \pm r)^t$$

Average rate of change = $\frac{y_2 - y_1}{x_2 - x_1}$ $\frac{x}{y}$

Factor

GCF

2 terms DOTs

3 terms Trinomials / Tricky Trinomials

4 terms Grouping

Can you factor further?

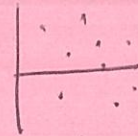
Recursive

$$a_1 =$$

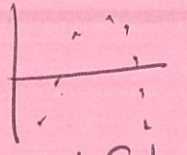
$$a_n = a_{n-1}$$

Statistics

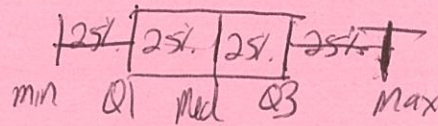
Residual



good fit



bad fit



Stat, Edit

Stat, Calc | 1 Var stats

\bar{x} = mean

σ_x = population standard deviation

mode = # with highest frequency

range = max - min

interquartile range = $Q_3 - Q_1$

spread = range
variability

"There is a strong/moderate/weak positive/negative correlation between _____ and _____"
 r = correlation coefficient.

$f(x) + a$ UP

$f(x) - a$ DOWN

$f(x + a)$ LEFT

$f(x - a)$ RIGHT

$-f(x)$ opens downward

$a > 1$

narrower

$a < 1$ wider