M10 - 0.0 - Remember



Measurement

Make Units Cancel!

Attach Prefix to the base unit!

<u>Distance</u>	Mass/Distance	<u>Volume</u>
1in = 2.54cm	1kg = 2.2lb	1L = 1000L
1ft = 12in	1yd = 3ft	1gal = 160oz
1m = 3.3ft	1mi = 1760yd	1gal = 10lbs
	1lb = 16oz	-9

$$1cm^3 = 1mL$$

Water 1kg = 1L

Surface Area and Volume (Units)

Width of rectangle in Cylinder is Circumference $V = A_{base} \times H$; Base must be Same as Top.

Trigonometry

$$\theta = \cos^{-1}(\frac{4}{5})$$

$$\theta = \cos^{-1}(0.8)$$

$$\theta = 36.9^{o}$$
Calculator
$$\text{Degree}$$

$$\text{Mode!}$$

$$cos 90 = 0$$

$$tan 90 = Und$$

 $-1 \ge \sin\theta \ge 1$ $-1 \ge \cos\theta \ge 1$ Sin or Cos can't be larger than 1 or smaller than -1

Cant Distribute/Factor/Divide $5\sin(20) \neq \sin(100)$ in/out of sin cos or tan!

Exponents

$$(x+3)^2 \neq x^2 + 3^2$$

$$(3+4)^2 \neq 3^2 + 4^2$$

$$7^2 \neq 25$$

$$x^{-2} + 5 = \frac{5}{3x^2}$$
Radical
Laws
$$\sqrt{a^2 + b^2} \neq a + b$$

$$\sqrt{3^2 + 4^2} \neq \sqrt{9} + \sqrt{16}$$

$$(a+b)^n \neq a^n + b^n$$
Cant Distribute an exponent into a binomial!
$$\sqrt{x^2 + 4} \neq x + 2$$

 $\sqrt{2} + \sqrt{2} \neq \sqrt{4}$

Polynomials

 $\sqrt{9+16} \neq 3+4$ $\sqrt{25} \neq 7$

$$(x+3)^2 = (x+3)(x+3) = x^2 + 6x + 9$$

 $(3+4)^2 = (3+4)(3+4) = 7 \times 7 = 7^2 = 49$

Graphing: TOV

Domain/Range:

Fingers cover not included Thumb points to included

 $x \ge 4$

Use your hand!

 $[4,\infty)$: Domain Interval Notation



Left Hand: Thumb Points Greater Than

x < 0Means x is negative

Linear Relations

Positive slopes go up to the right Negative slopes go up to the left. Zero slopes are Horizontal y = #Undefined slopes are Vertical x = #

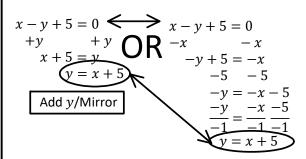
Linear vs Non-Linear Continuous vs Discrete

Slope Intercept "b, m" Slope Point "(x, y), m"

General "(x, 0) x - int and (0, y)y - int" Gen Form: No fractions/decimals +x, y, #=0

Parallel : Same Slope $m=m_{\rm H}$

Perpendicular : Negative Reciprocal: $m=-\frac{1}{m}$



Functions:

y = f(x) $f(x) \neq f \times x$

y = f(x)-1y = f(-1)y = f(2)

f(x) means f is a function of x.