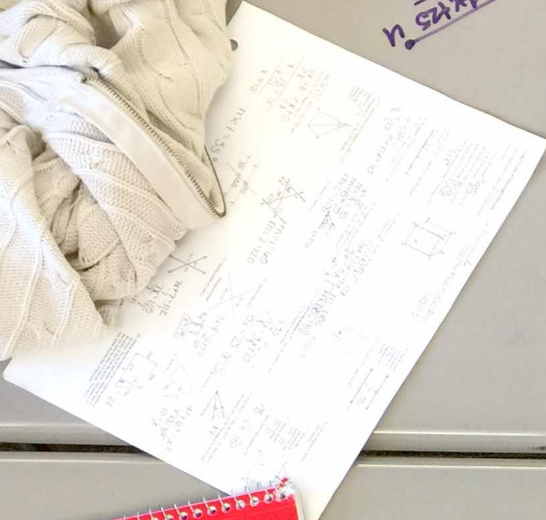
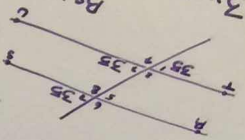


$$\begin{array}{r}
 9x \\
 - 4x + 25 \\
 \hline
 5x = 25 \\
 x = 5
 \end{array}$$

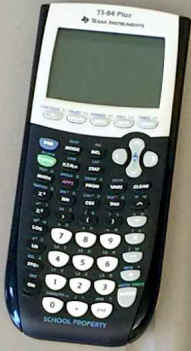
$9x = 4x + 25$
 $5x = 25$
 $x = 5$



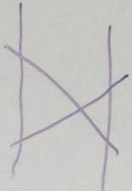
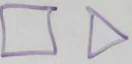
$$\begin{array}{r}
 x - 10 = 15 \\
 - 2x \\
 \hline
 3x - 10 = 2x + 5 \\
 x = 15
 \end{array}$$



13.



4. Intro to geometry

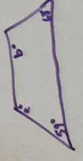


$$a = 180^\circ$$

mid point

line points

Find the value of a and b

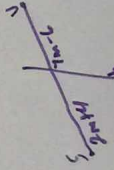


Find the missing sides

3, 7, 11, 15, 23, 31



Point / line



Rules of exponential functions

- Addition: add the exponents or add the exponents, multiply the coefficients
 - Subtraction: subtract the exponents or subtract the exponents, divide the coefficients
 - Multiplication: base stays the same, multiply exponent
 - Division: write the inverse
- THE POWER OF A BASE IS 1

Vocab

Growth
Decay
Asymptote
Base
Inverse function
Neutral base
Compound interest
rational exponent
variable
initial value

Exponential Functions Examples

	Examples	non-examples	
Numerical	$\frac{x}{10}$ $\frac{1}{4}$ 0 2 10	$\frac{x}{10}$ linear $\frac{1}{4}$ linear 0 linear 2 linear 10 linear	 linear  quad.  linear
Algebraic	$y = 2 \cdot 4^x$ $y = 4^x$	$y = 4^x$ linear $y = x^4$ linear	 Growth  Decay
Graphical			

12222

Exponential growth & Decay

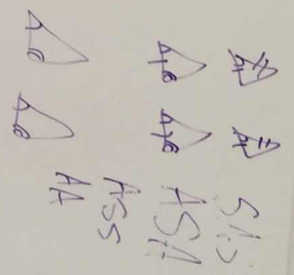
$$y = A(1+r)^x$$

A = Starting amount

r = rate

r is positive for growth
r is negative for decay

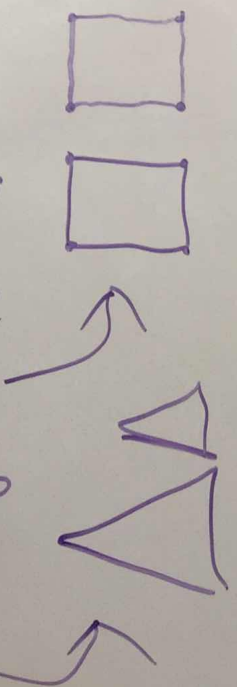
Scale Factor



Unit 5. Similarity & Congruence By Jonni

Similar: same shape but different sizes

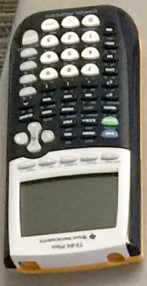
Congruent: identical.



Unit 6
Trigonometry

- Hypotenuse
- Longest Side
- Opposite of the right angle
- Adjacent
- next to the hypotenuse.

Always in degrees



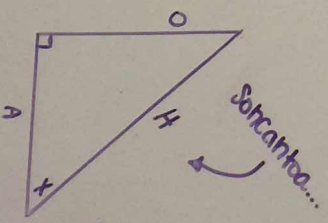
- SOH = Sine equals opposite over Hypotenuse
- CAH = Cosine equals adjacent over Hypotenuse
- TOA = Tangent equals opposite over adjacent

$$\sin = \frac{o}{h}$$

$$\cos = \frac{a}{h}$$

$$\tan = \frac{o}{a}$$

O = opposite
A = Adjacent
H = Hypotenuse



Angle of Depression

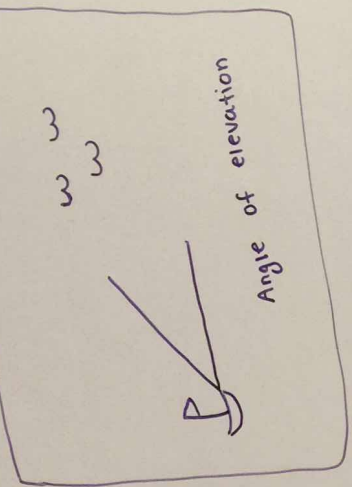


Sohcahtoa

$$\sin = \frac{o}{h}$$

$$\cos = \frac{a}{h}$$

$$\tan = \frac{o}{a}$$



UNIT 6 -
Trigonometry



Parabola $|a|$

Vertex	(0, 3)
Max	(0, 3)
AOS	0
Zeros	
Opening	Down
y int	0

Quadratic formula

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Quadr Function

$$f(x) = ax^2 + bx + c$$

2-Quad
2B-Quad
CS (Alg)
S (Geom)

Mary
Mary
Mary

Ex: $x^2 + 6x + 8 = 0$

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Let us find x value by

2.Q Ashely queen - a

2.B

Quadratic (Alg)

$$x^2 - 2x + 8 = (x-4)(x-2)$$

Multiplic form

TO DETERMIN GCF

1. List the prime factors of each term
2. Multiply the factors that both terms have in common

$a^2 - b^2 = (a+b)(a-b)$

THE QUADRATIC FORMULA!

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

2-Quadratics (Alg)

2B-Quadratics (Geom)

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

Solve $x^2 + 3x - 4 = 0$

$x^2 + 3x - 4 = (x+4)(x-1) = 0$

$a=1, b=3, c=-4$

$$x = \frac{-3 \pm \sqrt{3^2 - 4(1)(-4)}}{2(1)}$$

$$= \frac{-3 \pm \sqrt{9+16}}{2} = \frac{-3 \pm \sqrt{25}}{2}$$

$$= \frac{-3 \pm 5}{2} = \frac{-3-5}{2}, \frac{-3+5}{2}$$

$$= \frac{-8}{2}, \frac{2}{2} = -4, 1 = x$$

quadratic formula:

$$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$

example: $6x^2 + 11x - 35 = 0$

$$x = \frac{-11 \pm \sqrt{11^2 - 4(6)(-35)}}{2(6)}$$

$$= \frac{-11 \pm \sqrt{121 + 840}}{12}$$

$$= \frac{-11 \pm \sqrt{961}}{12} = \frac{-11 \pm 31}{12}$$

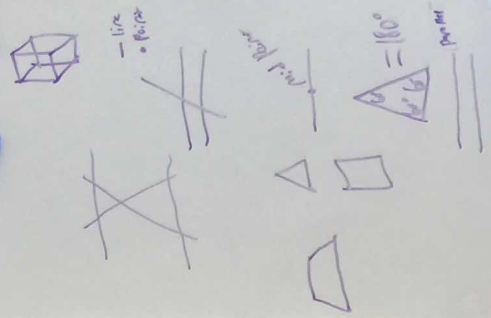
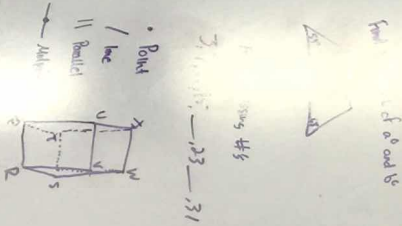
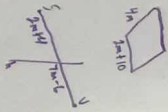
$$= \frac{-11-31}{12}, \frac{-11+31}{12}$$

$$= \frac{-42}{12}, \frac{20}{12} = -\frac{7}{3}, \frac{5}{3}$$

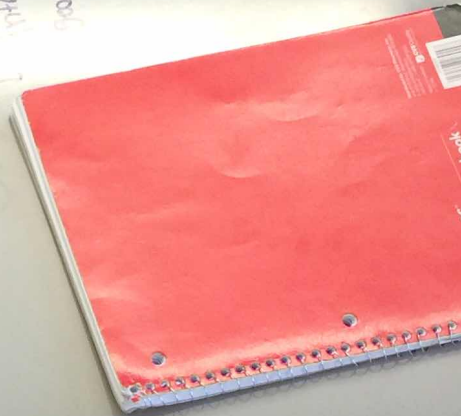
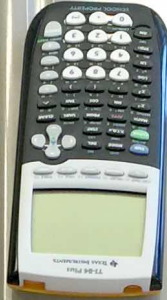
plug in and solve!

quadratics (algebra)

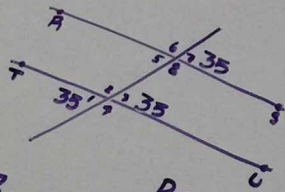
unit + 1/2



of this



13.



As $l \parallel TU, m\angle 7 = (3x-10)$ and $m\angle 3 = (2x+5)$. What is $m\angle 1$?

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

$$-2x \quad -2x$$

$$x-10 = 5$$

$$x = 15$$



S. $\frac{45}{9x} = \frac{4x+25}{1x+25}$

$$-9x = 1x + 25$$

$$5x = 25$$

$$x = 5$$

