2 - Quadratics Algebra

- Quadratic formula:
  $x = \frac{-b \pm \sqrt{b^2-4ac}}{2a}$ ← discriminant
  ← x-value of vertex
- Standard form: $y = ax^2 + bx + c$
  (example)
- Vertex form: $a(x-h)^2 + k$ ← y-coordinate of vertex
  ← x-coordinate of vertex
- Factoring:
  1st find GCF
  Ex: x^2+6x+8
  $(x+4)(x+2)$
  check: $x^2+2x+4x+8$
  x^2+6x+8

Graphing

Variables
- Vertex
- Axis of Symmetry
- Zeros
- Max/Min Value
- Direction of opening

Parabola
- y-intercept
- x-intercept

Axis of Symmetry
- Halfway between zeros
- x-intercept

Values
- (x, y)

Formulas
- y-intercept

Unit 2 B

$f(x) = 2$

EXPONENTial
Functions

Growth
Intial
amount
+ time
$f(x) = ab^x$
$a > 1$ - exponential growth
$a > 1$ - exponential decay

$f(x) = 2^x$
Compound
factoring

Similarity & Congruence

Congruence

It's about having the same size, measurement.

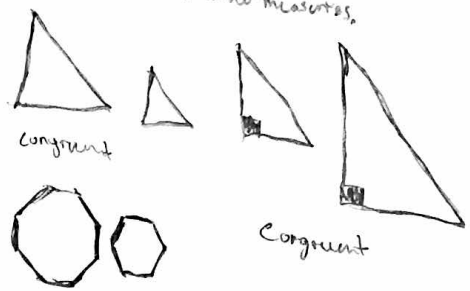
Congruence

Michael C.

Similarity and Congruence

Unit 5

It's about shapes being the same size and the same measures.



Unit 2
Transformation

Translation
Preimage (8, -2)
(x, y) ⇒ (x+4, y-6)
Answer ⇒ (12, -8)

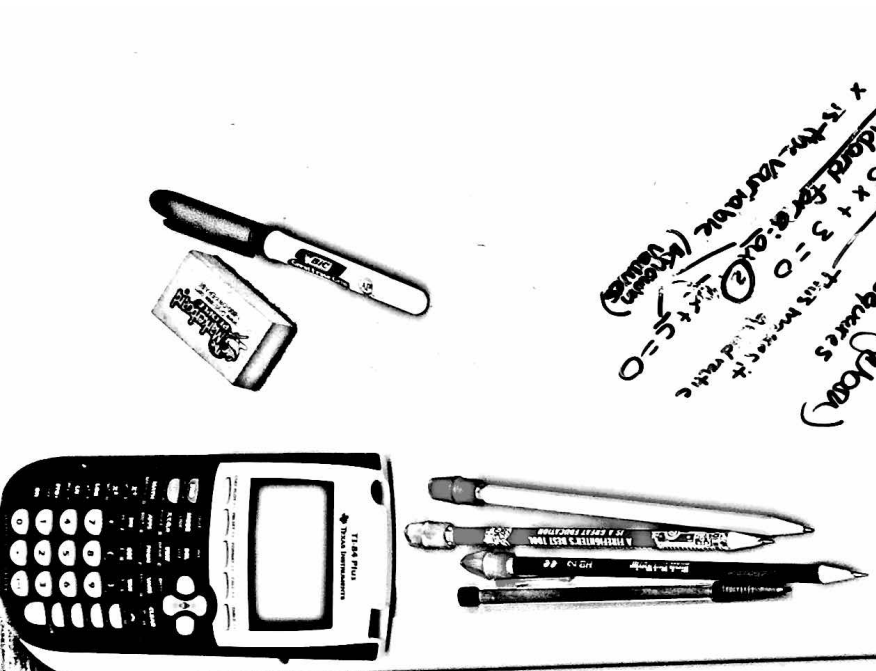
R Rotation
Preimage (2, 5) ⇒ 180° ⇒ (-2, -5)

Reflection
△/△

Translation
(x, y) ⇒ (x+3, y-1)

Reimage ⇒ Image
A ⇒ A'

Dilation
□ → □



Unit 1 (Algebra)
1- Quadratics: Squares
(Arrows) this means it's also true
Standard form is: $ax^2+bx+c=0$
Solutions (Roots) (Intercepts)
x-intercepts-variable (Values)

$5x^2-3x+3=0$

$(x-y)(x+y)$

Exponent

$x^{(2)}$

$\sqrt{100}$

2 50

2 25

4 5

$4\sqrt{5}$

Unit 1

Unit 3

Trigonometry

Sin, Cos, Tan
Mode: Degrees
Need calculator to solve

SOH CAH TOA

Trigonometry

- Cos, Tan, Sin (calculator)
- Mode - Degrees
- Inverse
- SOH
- CAH
- TOA

Trigonometry

- Cos Tan Sin
- Mode, Degree (calculator)
- Inverse to make it negative (2nd Sin, cos & Tan)

SOH
CAH
TOA