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English and Math Notes (15th Edition)

Parts of speech:

Part	Definition

Independent Clause:

Dependent Clause:

Commas:

- Comma Splice/Run-on-

Ways to fix:

1.

2.

3.

4.

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Commas continued…

- Comma before a conjunction-

- Commas vs Dashes-

Semi-Colon:

Colon:

FANBOYS: Major conjunctions:

Sentence Reorganization:

Its vs. It's vs. Its’

Verb Conjugation:

Apostrophes:

- Nouns-
- Pronouns-

Pronoun questions:

Who vs Whom: Start with pronoun strategy (look for antecedent)

SUBJECT VERB OBJECT

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Contrasting words and punctuation:
(however, instead, though)

Affect vs effect:

Could of/might of/should of/would of/must of:

Then vs. Than:

Transition Word Notes:

Addition: Used to add information	Similarly, also, moreover, in addition, additionally, and**, furthermore, likewise, by the same token
Introduction/Example/Comparison	Such as, for example, for instance, to illustrate, in other words, namely, that is, specifically
Contrasting	But**, however, instead, though, while, whereas, on the other hand, nevertheless, despite, yet**, conversely, regardless, although, even so, still, rather, nonetheless
Cause and effect	Because**, since, for**, just as, consequently, therefore, thus, so**, accordingly, as a result, hence
Time and Sequence	Then, meanwhile, afterward, finally, eventually, subsequently, before, thereafter
‘Indeed’ is used for emphasis or confirmation	conjunction**

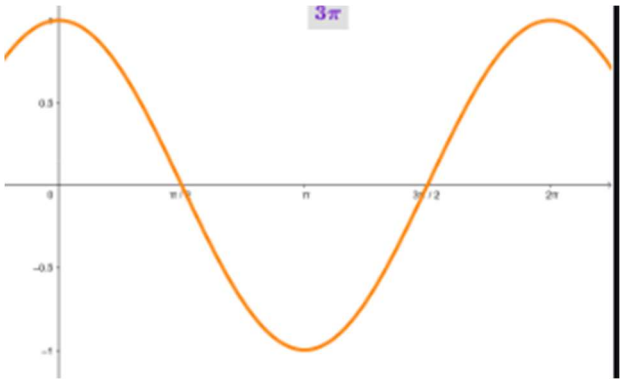
Math Notes

Rational/Irrational numbers

Graphing a circle (conics)

$$(x-h)^2+(y-k)^2=r^2 \qquad (x-3)^2+(y+1)^2=25$$

Period and Amplitude of Sine/Cosine graphs



Rationalizing/Conjugate

$$\frac{5}{\sqrt{3}}$$

$$\frac{1}{3-\sqrt{2}}$$

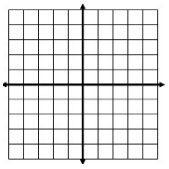
Solving Absolute Value Equations/inequalities

$|x-2|+6=10$

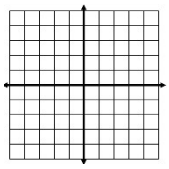
$|2x-5| \leq 7$

Inequality graphs

y>



y<



Linear Functions:

- Slope:
- Slope-intercept form:

Systems of linear functions:

Infinite solutions-

One solution-

No solutions-

Stacking Probability

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Quadratics

Standard Form:

$$ax^2 + bx + c = 0$$

Vertex Form:

$$f(x) = a(x-h)^2 + k$$

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

Difference of squares

$$a^2 - b^2$$

Completing the square

$$x^2 + 6x - 8 = 0$$

Adding fractions with expressions as denominators

$$\text{Add: } \frac{2}{x-5} + \frac{x-23}{x^2 - x - 20}$$

Radians/Degrees:

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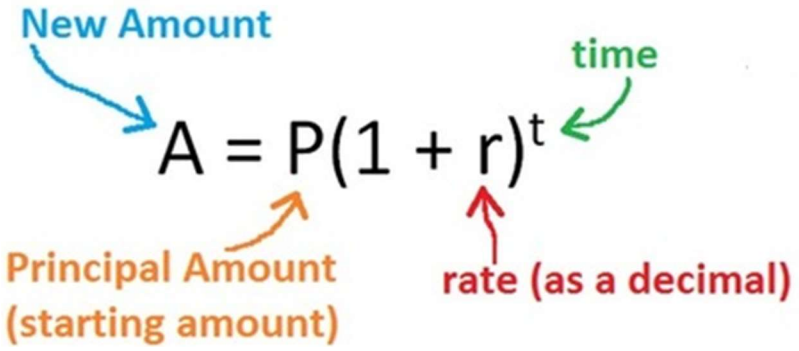
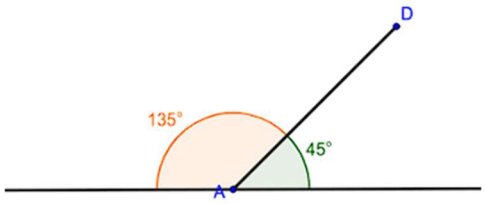
Exponential Growth/Decay:

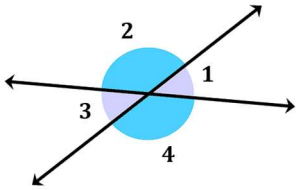


Triangle Toolbox:

- **All three angles of a triangle add up to 180**
- **Flat lines add up to 180**



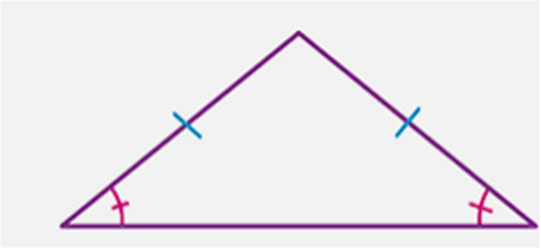
- **Vertical Angles are congruent**



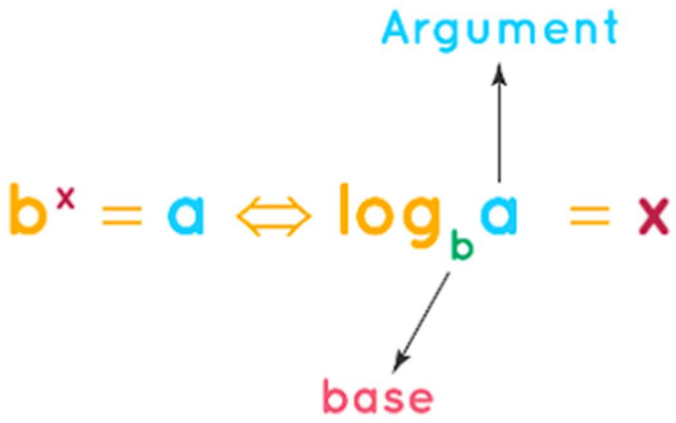
$\angle 1 \cong \angle 3$

$\angle 2 \cong \angle 4$

- **The equal sides of an isosceles triangle have equal angles**



Logarithms:



$\log_5 1 = y$

$\log_y 32 = 5$

$\log_2 8 = y$

$\log_9 y = -\frac{1}{2}$

Distance Formula-

$$\sqrt{(x_2-x_1)^2+(y_2-y_1)^2}$$

Mid-point Formula

$$\left(\frac{x_1+x_2}{2}, \frac{y_1+y_2}{2}\right)$$

Law of Sines/Cosines

$$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$$

$$c^2 = a^2 + b^2 - 2ab\cos(C)$$

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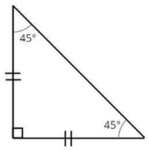
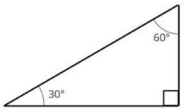
Concept	Formula (Fill In)
Distance Midpoint	
Slope A.k.a- Rate of change, rise/fall	
Quadratic Formula	
Standard Form Quadratic Vertex Form	
Discriminant	
Parabola Midline (Axis of Symmetry) X-value of the vertex	
Rectangle Area Rectangular Prism Volume Pyramid Volume	
Diagonals of a Polygon Sum of interior angles of a Polygon	

Circle Area Sector Area	
Circle Circumference Arc Length	
Triangle Area Volume of Triangular Prism	
Cylinder Volume Cone Volume	
Special Right Triangles	 
Law of Sines	
Law of Cosines	
Arithmetic Sequence Geometric Sequence	