UNIT 5 PACKET – INTRODUCTION TO TRIGONOMETRY
PRE-CALCULUS HONORS

NAME: __Key__

WARMUP – FILL IN THE FOLLOWING INFORMATION TO THE BEST OF YOUR ABILITY.

- A *Unit Circle* is a circle with a radius of __1__ unit and is centered at the __origin__. The Unit Circle includes

  the coordinates and angle measures (in both __degrees__ and __radians__) at several key points

  around the circle. There are several applications and uses for the Unit Circle, which we will explore ☺

- We can convert from Degrees to Radians by multiplying by __$\frac{\pi}{180}$__ or __$\frac{3.14}{180}$__.

- We can convert from Radians to Degrees by multiplying by __$180/\pi$__ or __$180/3.14$__.

- We read the Unit Circle __counter-clockwise__ for positive angle measurements and
  __clockwise__ for negative angle measurements.

- Definition: *Coterminal Angles* are angles that share the same __initial__ and __terminal__

  sides. Every angle has an __infinite__ amount of coterminal angles.

- Definition: *Relative Angles* are angles in the first quadrant that correspond to points in the other quadrants.

  For example: 30° is the reference angle for __150°__, __210°__, and __330°__. $\frac{1}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{\sqrt{3}}{3}$

- We can rationalize denominations, such as $\frac{1}{\sqrt{3}}$, by __Multiply by Radical on TOP__.
  __AND BOTTOM !!__

- Formula: *Arc Length* – __$L = r\theta$__

- Formula: *Sector Area* – __$A = \frac{1}{2} \cdot r^2 \theta$__

- Formula: *Pythagorean Theorem* (used for Right Triangles) – __$a^2 + b^2 = c^2$__

- SOH-CAH-TOA means sinx=__$\frac{Opp.}{Hyp.}$__, cosx=__$\frac{Adj.}{Hyp.}$__, and tanx=__$\frac{Opp.}{Adj.}$__.

- Fill in the following special triangles: