Secondary Math 3

Concept: \_\_\_\_\_\_unit circle\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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| **Learning Objective:**  I know…I can… | **Assessment Examples:** |
| 1. I can convert a degree measure to a radian measure (visa versa) | Convert to degrees – radians  Convert –320º to radian measure in terms of pi |
| 1. I can explain that the radian measure corresponds to the length of an arc around the unit circle |  |
| 1. I can use the special triangles to locate points around the unit circle |  |
| 1. I can use the unit circle to evaluate sin, cos and tan of special angles in any quadrant. | Find the exact values of  and  **Use a unit circle to find all angle measurements between 0-2 that satisfy the following:**  19. angles whose sine is |

**Launch:** (How will you begin your lesson to help students make connections to material already learned and help students understand why they are learning the new concept?)

Students learned last year how to convert between radians and degrees, so do a quick review of unit analysis and tie into the idea of an arc around the unit circle. http://www.mathsisfun.com/geometry/radians.html

**Explore:** (How will you allow students to construct their own understandings?)

* Paper plate activity
* Have them draw the triangles in quad. 1 to discover the coordinate pairs at 30, 45 and 60 then use symmetry find the coordinate pairs at multiples of 30, 45, 60.

**Discuss:** (How will you share students’ learning and assure all students have a minimal level of understanding?)

* The cosine of an angle is equal to the x ordinate, and the sine is equal to the y ordinate
* Have students evaluate trigonometric expressions using the unit circle

**Summarize:** (How will you help students understand what they learned, why they learned it, how does it connect to what you already know?)

One can evaluate trig expressions quickly without using special triangles