**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**  **Unit 6 Review – Trigonometry & the Unit Circle**

**Helpful Information:**

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
| **0º / 0 rad** |  |  |  |
| **30º / rad** |  |  |  |
| **45º / rad** |  |  |  |
| **60º / rad** |  |  |  |
| **90º / rad** |  |  | und. |

Reference angles always drawn from the **x-axis**

Trig Identities & Pythagorean Identities

π radian = 180º

Remember what is positive in each quadrant:

* *All Students Take Calculus*
* *Alvin, Simon, and Theodore are the Chipmunks*

**Level I Practice:**

1. If , then *M* equals

|  |  |
| --- | --- |
| 1) | 32° |
| 2) | 58° |
| 3) | 68° |
| 4) | 72° |

1. Tarisha and Alan are writing an expression for the measure of an angle coterminal with the angle shown at the right. Is either of them correct? Explain your reasoning.

|  |  |
| --- | --- |
| **Tarisha** | **Alan** |
| The measure of a coterminal angle is  | The measure of a coterminal angle is  |

1. Determine whether is true or false. Explain your reasoning.
2. In the diagram below of right triangle *KTW*, *KW=6*, *KT=5*, and *m<KTW=90*. What is the measure of *<K*, to the *nearest minute*?



* 1. 33º33’ b. 33º34’ c. 33º55’ d. 33º56’

**Level II Practice:**

1. If the terminal side of angle **, in standard position, passes through point , what is the numerical value of ?

|  |  |
| --- | --- |
| 1) |  |
| 2) |  |
| 3) |  |
| 4) |  |

1. A shadow moves around a sundial 15º every hour.
	1. After how many hours is the angle of rotation of the shadow radians?
	2. What is the angle of rotation in radians after 5 hours?
2. Jordan and Ebony are simplifying . Is either correct? Explain your reasoning.

|  |  |
| --- | --- |
| **Jordan** | **Ebony** |
|    |   |

1. In which graph is coterminal with an angle of ?



**Level III Practice:**

1. Using the unit circle below, explain why .



1. Simplify the following expression by writing it in terms of :
2. A circle centered at the origin has a radius of 10 units. The terminal side of an angle, , intercepts the circle in Quadrant II at point *C*. The *y*-coordinate of point *C* is 8. What is the value of ?

|  |  |
| --- | --- |
| 1) |  |
| 2) |  |
| 3) |  |
| 4) |  |

1. In the diagram below of right triangle *JTM*, *JT=12*, *JM=6*, and *m<JMT=90*. What is the value of *cotJ*?



* 1. b. 2 c. d.