**5.1 Trigonometric Functions. Notes.**

Angles in standard position**:**

Reference Angles:

Co-terminal Angles:-angles that have the same\_\_\_\_\_\_\_\_\_arm.

Radian Measure: One radian is the measure of the angle formed by rotating the radius of a circle through an arc equal in length to the radius.

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Length of an arc: Area of a Sector:

1) Find the degree and radian measure of each angle:

a) $\frac{7}{5}$ Rotations b) $\frac{2}{3}$ Rotation

2) Find the reference angle for each angle:

a) $ -520°$ b) $\frac{7π}{6}$ c) $ \frac{24π}{7}$

3) Determine a positive and negative co-terminal angle.

a) 1100$°$ b) -314 c)$\frac{2π}{5}$ d) $-\frac{π}{3}$

4) Convert from degrees to radians. Express answer in terms of $π$

a) 300$°$ b) 630$°$

5) Convert from degrees to radians. Express answer to 3 decimal places.

a) 130$°$ b) -1263$°$

6) Convert from radians to degrees.

a) $\frac{17π}{6}$ b) $\frac{13π}{6}$

7) Convert from radians to degrees. Give answers to 1 decimal place.

a) 2.9 b) -1.6

8) Find the radius of a circle if an arc of 6 subtends an angle of 30$°$ on the circle.

9) Find the angle in degrees if an arc length of 10 cm has a radius of 12 cm.

10) A pottery wheel with radius 16 cm makes 30 revolutions in 10sec. Determine the average **angular speed** (**the rate at which the central angle is changing**) of the wheel in radians per second. Round your answer to the nearest hundredth.