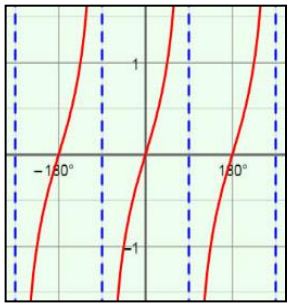
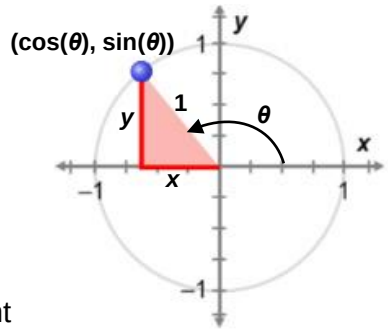
Vocabulary: Tangent Function

Vocabulary

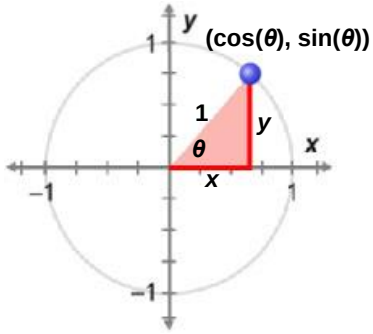
- Asymptote – a line that a curve approaches as one of the variables goes to infinity.
- Odd function – a function whose graph is symmetric about the origin.
  - If (x, y) lies on the graph of an odd function, then ($-x$, $-y$) also lies on the graph.
- Period – the length of the interval that repeats in a function.
  - A function whose values repeat in regular intervals is *periodic*.
    - For example, tan(θ) is periodic with a period of 180°, or π radians.



- Radian – a unit of angle measure, such that one full rotation equals 2π radians.
  - Because 1 rotation (360°) = 2π radians, it follows that π radians = 180°, and 1 radian = $\frac{180°}{\pi}$, or about 57.3°.
  - If a central angle of a circle measures 1 radian, it intercepts an arc that is the same length as the radius of the circle.
- Reference triangle – a right triangle formed by a perpendicular segment from the terminal ray of an angle θ in standard position to the x-axis.
  - For example, the triangle to the right is the reference triangle for angle θ.



- Tangent – in a right triangle, the length of the leg opposite angle θ divided by the length of the leg adjacent to angle θ: $\tan(\theta) = \frac{\text{opposite}}{\text{adjacent}}$.
  - If θ is in *standard position*, with its vertex at the center of a unit circle on the coordinate plane, then $\tan(\theta) = \frac{y}{x} = \frac{\sin(\theta)}{\cos(\theta)}$.



- Trigonometric function – a function of an angle given as the ratio of the sides of a right triangle that contains the angle.
- Unit circle – a circle with a radius of 1.