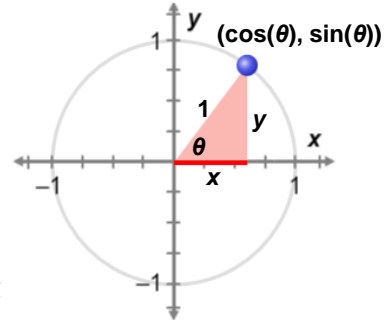# Vocabulary: Cosine Function

📖 **Vocabulary**

- <u>Cosine</u> – in a right triangle, the length of the leg adjacent to angle θ divided by the hypotenuse: $\cos(\theta) = \dfrac{\text{adjacent}}{\text{hypotenuse}}$.

  - o If θ is in *standard position*, with its vertex at the center of a unit circle, $\cos(\theta)$ is the *x*-coordinate of the point where the angle intersects the circle.
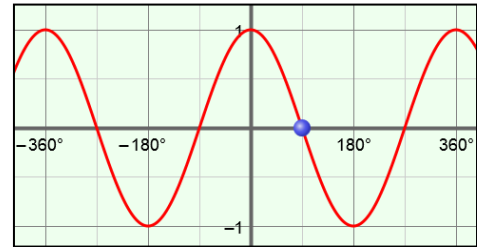
- <u>Even function</u> – a function whose graph is symmetric about the *y*-axis.

  - o If the point (*x*, *y*) lies on the graph of an even function, then (–*x*, *y*) also lies on the graph.

- <u>Period</u> – the length of the interval that repeats in a function.

  - o A function whose values repeat in regular intervals is *periodic*.

   - ▪ For example, $y = \cos(\theta)$ is periodic, with a period of 360°, or 2π radians.

- <u>Radian</u> – a unit of angle measure, such that one full rotation equals 2π radians.

  - o Because 1 rotation (360°) = 2π radians, it follows that π radians = 180°, and 1 radian = $\dfrac{180°}{\pi}$, or about 57.3°.

  - o 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.

- <u>Reference triangle</u> – a right triangle formed by a perpendicular segment from the terminal ray of an angle θ in standard position to the *x*-axis.

  - o For example, the triangle to the right is the reference triangle for angle θ.
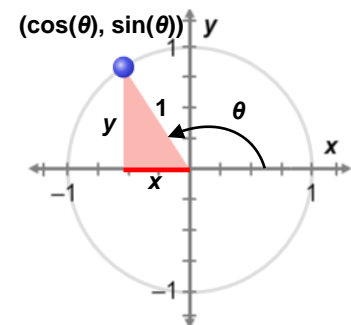
- <u>Trigonometric function</u> – a function of an angle given as the ratio of the sides of a right triangle that contains the angle.

- <u>Unit circle</u> – a circle with a radius of 1.