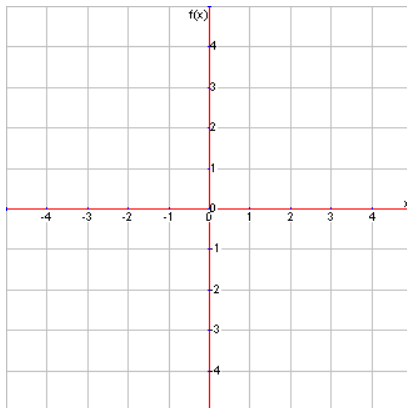


Name:

Section 2.3 Cosine and Tangent of Angles in Standard Position

1. Suppose $\angle B$ is in standard position and contains the point $(-2, 4)$ on its terminal side.

(a) Graph the angle on the coordinate axes below.



(b) Use what you know about right triangles to find $\cos B$.

(c) We know that

$$\sin B = \frac{\text{vertical coordinate of a point on the terminal side of } \angle B}{\text{distance from that point to the origin}} = \frac{y}{+\sqrt{x^2 + y^2}}.$$

Find a similar expression for $\cos B$:

$$\cos B =$$

(d) Find $\tan B$. Is it positive or negative? Explain.

(e) Find a similar expression for $\tan B$ that you found in part (c).

2. Suppose $\angle C$ is in standard position, with $0^\circ \leq C \leq 360^\circ$ and contains the point $(-5, 5\sqrt{3})$ on its terminal side.
- (a) Sketch the angle.

 - (b) Find $\cos C$ **exactly**.

 - (c) From part (b), can you figure out the measure of the reference angle of $\angle C$? Do not use your calculator.

 - (d) Find the measure of $\angle C$.
3. The terminal side of A can be in what quadrants if $\cos A < 0$? The terminal side of D can be in what quadrants if $\tan D < 0$?
4. Find **exact values** for $\cos 135^\circ$ and $\tan 135^\circ$.