

# Algebra II

## Basic Trigonometry/Unit Circle

### Quiz, Quiz, Switch

SPI 3103.4.1 Exhibit knowledge of unit circle trigonometry.

#### Directions

Preparing for the Activity – Print the attached cards on cardstock or on copy paper. Cut out the cards on the solid lines; do not cut on the dotted line.

Conducting the Activity – At the beginning of the activity, give each student a card. Have them fold their card on the dotted line. Students will move about the room having their classmates answer the question on their card. Each pair of students quiz each other on their question, then they switch to a new partner. When the “quizzer” show the question to the “quizzee”, the “quizzer” should be able to see the correct answer if they have folded their card on the dotted line. Students should try to pair up with all other students so that they will have plenty of practice on the concept being practiced.

Sometimes I have students keep the same card for the entire activity, and sometimes I have them switch cards after they quiz someone on their card.

Most classes can handle this activity rather well, and they enjoy the chance to get up and move. If it is a class that would have difficulty staying on task, you may choose to require that they get all classmates signature or have them fill out an answer sheet to all of the problems on the cards.

This activity works well for any type of problem that students should be able to do mentally. It also works well for vocabulary review.

$$\sin 0^\circ$$

$$0$$

$$\cos 0^\circ$$

$$1$$

$$\tan 0^\circ$$

$$0$$

$$\sin 30^\circ$$

$$\frac{1}{2}$$

$$\cos 30^\circ$$

$$\frac{\sqrt{3}}{2}$$

$$\tan 30^\circ$$

$$\frac{\sqrt{3}}{3}$$

$$\sin 45^\circ$$

$$\frac{\sqrt{2}}{2}$$

$$\cos 45^\circ$$

$$\frac{\sqrt{2}}{2}$$

$$\tan 45^\circ$$

$$1$$

$$\sin 60^\circ$$

$$\frac{\sqrt{3}}{2}$$

$$\cos 60^\circ$$

$$\frac{1}{2}$$

$$\tan 60^\circ$$

$$\sqrt{3}$$

$$\sin 90^\circ$$

$$1$$

$$\cos 90^\circ$$

$$0$$

$$\sin 180^\circ$$

$$0$$

$\cos 180^\circ$

$-1$

$\tan 180^\circ$

$0$

$\sin 270^\circ$

$-1$

$\cos 270^\circ$

$0$

$\sin 360^\circ$

$0$

$$\cos 360^\circ$$

1

$$\tan 360^\circ$$

0

$$\sin \theta = \frac{?}{?}$$

$\frac{\textit{opposite}}{\textit{hypotenuse}}$

$$\cos \theta = \frac{?}{?}$$

$\frac{\textit{adjacent}}{\textit{hypotenuse}}$

$$\tan \theta = \frac{?}{?}$$

$\frac{\textit{opposite}}{\textit{adjacent}}$

$$\csc \theta = \frac{?}{?}$$

$$\frac{\textit{hypotenuse}}{\textit{opposite}}$$

$$\sec \theta = \frac{?}{?}$$

$$\frac{\textit{hypotenuse}}{\textit{adjacent}}$$

$$\cot \theta = \frac{?}{?}$$

$$\frac{\textit{adjacent}}{\textit{opposite}}$$

Rewrite in radians  
 $30^\circ$

$$\frac{\pi}{6}$$

Rewrite in radians  
 $45^\circ$

$$\frac{\pi}{4}$$

Rewrite in radians

$$60^\circ$$

$$\frac{\pi}{3}$$

Rewrite in radians

$$90^\circ$$

$$\frac{\pi}{2}$$

Rewrite in radians

$$180^\circ$$

$$\pi$$

Rewrite in radians

$$270^\circ$$

$$\frac{3\pi}{2}$$

Rewrite in radians

$$360^\circ$$

$$2\pi$$