ALGEBRA II Unit: Trigonometry Review Sheet

1) Write the 3 trigonometric ratios.

\[ \theta = \frac{\text{___}}{\text{___}} \]

2) What MODE should your calculator be in: __________________. How do you check?

3) Use a calculator to find each trigonometric ratio. Round to the nearest hundredth.

\[
\begin{align*}
\sin 64^\circ & \quad \cos 58^\circ \\
(0.33) & \quad (0.47) \\
\frac{9}{10} & \quad \frac{1}{5} \\
15^\circ & \quad \frac{3}{4}
\end{align*}
\]

4) Use a calculator to find each angle measure to the nearest degree.

\[
\begin{align*}
\sin^{-1} & \quad \cos^{-1} \\
0.33 & \quad 0.47 \\
\frac{9}{10} & \quad \frac{1}{5} \\
1.21 & \quad \frac{3}{4}
\end{align*}
\]

5) Use the figure for Exercises 1–6. Write each trigonometric ratio as a simplified fraction and as a decimal rounded to the nearest hundredth.

\[
\begin{align*}
\sin A & \quad \cos B \\
\sin B & \quad \cos A \\
\tan B & \quad \tan A \\
XZ & \quad HI \\
ST & \quad EF \\
DE & \quad KM
\end{align*}
\]
Use a calculator and inverse trigonometric ratios to find the unknown side lengths and angle measures. Round lengths to the nearest hundredth and angle measures to the nearest degree.

24) \( \alpha = \) __________  
\( \beta = \) __________  

25) \( \alpha = \) __________  
\( \beta = \) __________  
\( w = \) __________  

26) \( \beta = \) __________  
\( y = \) __________  

27) From the top of a lighthouse 50 meters high, the angle of depression of a boat out at sea is \( 15^\circ \). Find to the nearest meter the distance from the boat to the foot of the lighthouse, where the foot of the lighthouse is at sea level.

28) On the 13\(^{th}\) tee, Tiger Woods hit a ball 350 yards but sliced it by \( 5^\circ \). If his ball is level to the hole, how far away is he from the hole?

29) A surveyor 50 meters from the base of a cliff measures the angle of elevation to the top of the cliff as \( 72^\circ \). What is the height of the cliff? Round to the nearest meter.

30) Jefferson St., Main St., and Madison St. form a right triangle. Jefferson St. and Main St. are perpendicular to each other. If Jefferson St. is 2.7 miles and Main St. is 1.4 miles, what is the measure of the acute angle formed by Jefferson St. and Madison St. to the nearest degree?
Fill in the complete unit circle