Homework 39 – More Navigation Problems; Trigonometric Graphs Name:
December 10-11, 2012 - Precalculus (Oberle)

1. A hiker travels 3 miles at a heading of 20°, and then 2 miles at a heading of 280°.
   a. Draw a sketch of the hiker's journey.
   b. Find the distance and heading that the hiker must travel to return to her starting position.

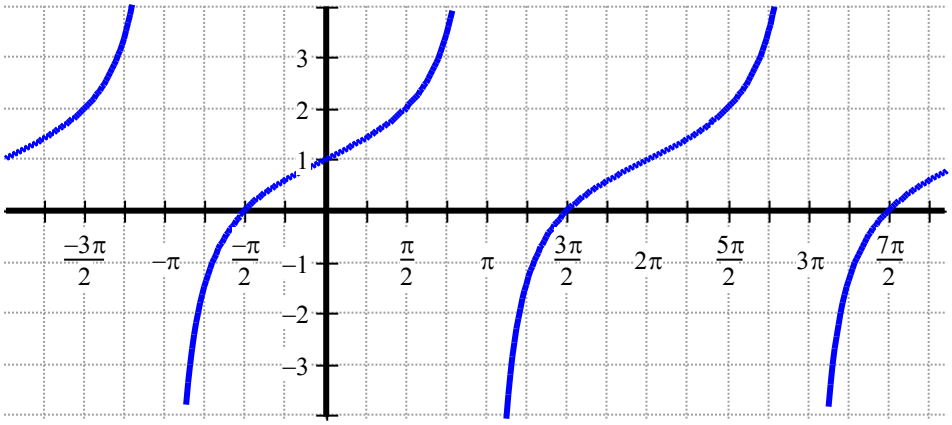
2. A pirate map lists the following instructions: starting at the palm tree, walk 40 paces at a heading of 120° to the mossy rock, and then walk 30 paces at a heading of 200° to find the treasure!
   a. Draw a sketch illustrating the map's instructions.
   b. Find the distance and heading from the palm tree directly to the treasure.

Graph the following functions.

3. $y = \cot\left(x + \frac{\pi}{6}\right)$
4. $y = 2\csc x + 1$
5. $y = 3\tan\left(\frac{1}{3}\left(x - \frac{\pi}{4}\right)\right)$
6. $y = -\frac{1}{2}\sec(2x) - 2$

Identify the following functions given their graphs.

7.



8.