MTH 162, Quiz #2, Spring 2025 Name_____

Instructions: Show all work. Use exact answers unless specifically asked to round. Answer all parts of each question.

1. Convert the angle $\frac{16\pi}{3}$ radians to degrees.

2. Find the distance between two points on the Earth's surface 40° latitude apart if the radius of the Earth is approximately 4000 miles.

3. Find the value of each expression is $\sin\theta = \frac{4}{5}, \theta \in \left[0, \frac{\pi}{2}\right)$.
   a. $\cos\theta$
   b. $\cot\theta$
   c. $\tan(\theta + \pi)$
   d. $\csc(\theta - 18\pi)$

4. Find the value of each expression is $\tan\theta = \frac{2}{7}, \theta \in \left[\pi, \frac{3\pi}{2}\right)$.
   a. $\cos\theta$
   b. $\csc\theta$
   c. $\sec(\theta - 19\pi)$
   d. $\sin(-\theta)$