

Homework 11: Not due, but it is strongly recommended that you do it.

Write on only one side of each page. Staple all work.

1. The bicycle I own has a wheel of a diameter of 30". I ride my bicycle for 2 miles. How many revolutions will the wheel make?
2. Find the values of the 6 trigonometric functions at the value $\theta = \frac{57\pi}{6}$ and $\theta = \frac{58\pi}{6}$.
3. Sketch the triangle that has acute angle θ and $\cot \theta = 5/3$, and find the other five trigonometric functions at the value θ .
4. Graph $f(x) = \sin\left(x + \frac{\pi}{2}\right)$ and $g(x) = \cos x$ in the same xy -plane. What can you conclude about $f(x)$ and $g(x)$? What can you tell me about the relationship of $f(x)$ and $g(x)$ when $f(x) = \cos\left(x + \frac{\pi}{2}\right)$ and $g(x) = \sin x$ and justify your answer.
5. Graph $f(x) = \tan x$ in the interval $[0, \pi]$.
6. Graph
 - (a) $f(x) = 4\sin\left(3x + \frac{\pi}{2}\right) + 5$.
 - (b) $f(x) = -\cos\left(x + \frac{2\pi}{3}\right) - 3$.
 - (c) $f(x) = 2\tan\left(\frac{\pi}{2}x\right)$.