

Math 06, Homework 12 on the graphing, identities
due Tue, May 7 at the start of class.

These ten questions are 3 points each. Write your work on a separate sheet. Show clearly all your working out and reasoning and check your answers match the ones in the book at the end of each section.

1. **Q11, p. 175.** Complete this table of values for $y = -4 \cos x$

x	$\cos x$	$-4 \cos x$
0		
$\pi/2$		
π		
$3\pi/2$		
2π		

2. **Q13, p. 175.** For $y = 4 \sin x$, sketch the graph for $-2\pi \leq x \leq 4\pi$ and give the amplitude.
3. **Q21, p. 175.** For $y = \frac{1}{3} \cos x$, sketch the graph for $-2\pi \leq x \leq 4\pi$ and give the amplitude.
4. **Q23, p. 175.** For $y = -4 \cos x$, sketch the graph for $-2\pi \leq x \leq 4\pi$ and give the amplitude.
5. **Q33, p. 176.** Find the equation of the sine or cosine function which fits this information: The function has a maximum value of 10 at $x = 0$. It then reaches a minimum value of -10 at $x = \pi$. The function attains its maximum value again at $x = 2\pi$.
6. **Q1, p. 192.** Verify the identity:

$$\sin \theta \sec \theta = \tan \theta$$

7. **Q7, p. 192.** Verify the identity:

$$\sin \alpha = \frac{\tan \alpha \cot \alpha}{\csc \alpha}$$

8. **Q21, p. 192.** Verify the identity:

$$(\sec t + 1)(\sec t - 1) = \tan^2 t$$

9. **Q47, p. 193.** Verify the identity:

$$\frac{\csc \theta}{\cot \theta + \tan \theta} = \cos \theta$$

10. Explain if this equation is an identity or not:

$$\sin \theta + \sec \theta = \tan \theta$$