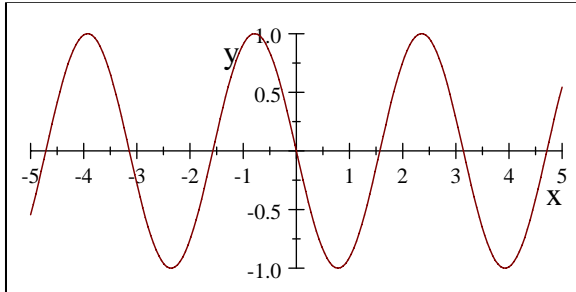


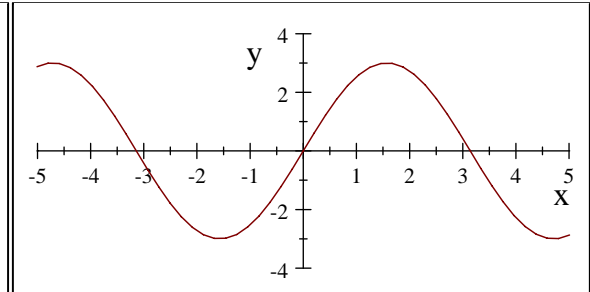
**MATH. 125, QUIZ 6 - Section 4.5 & 4.6** (25points = 5% final grade) -  
NO CALCULATOR ALLOWED

1. (1 point each) Match the given functions (a) - (h) with the graphs; indicate your choice by writing an appropriate letter below each graph

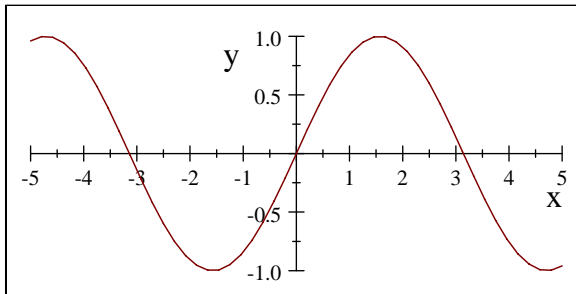
- (a)  $y = 3 \sin x$    (b)  $y = \sin(-2x)$    (c)  $y = \cos(x + \frac{\pi}{2})$    (d)  $y = 3 \sin(\frac{x}{3})$   
 (e)  $y = \tan 2x$    (f)  $y = \cot(2x)$    (g)  $y = 2 \sec x$    (h)  $y = \frac{\csc(3x)}{3}$



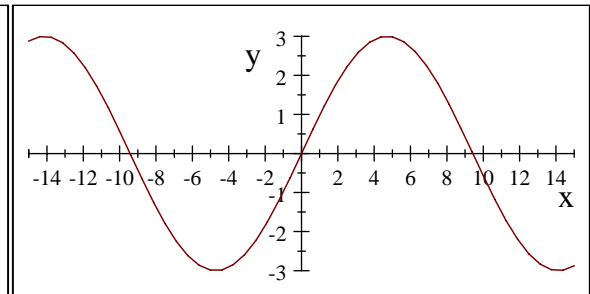
$\sin(-2x)$



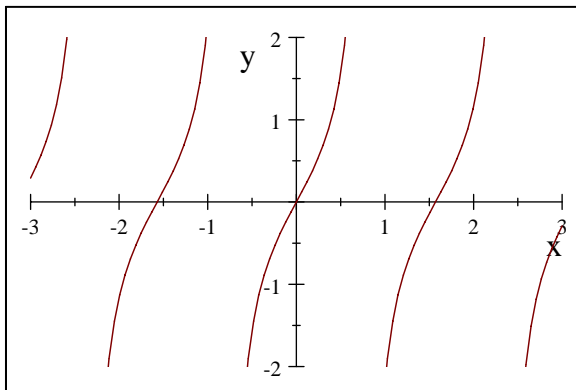
$3 \sin x$



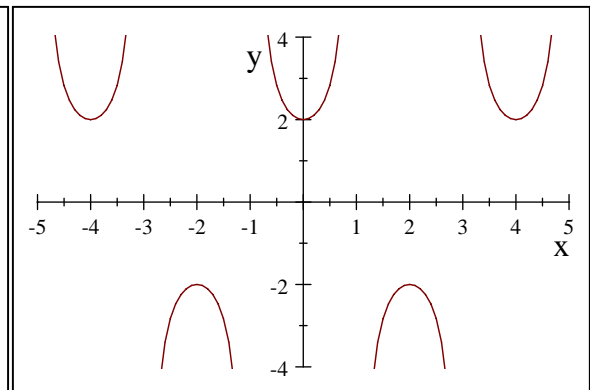
$\cos(x - \frac{\pi}{2})$



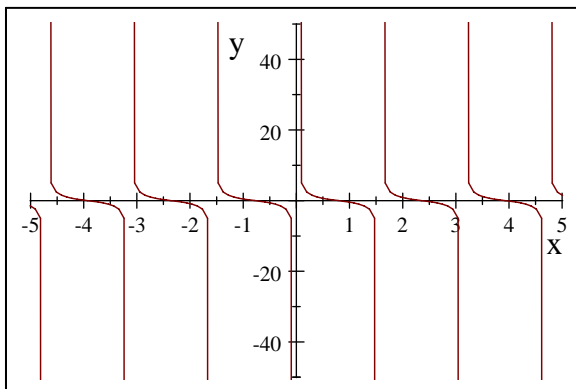
$3 \sin(\frac{x}{3})$



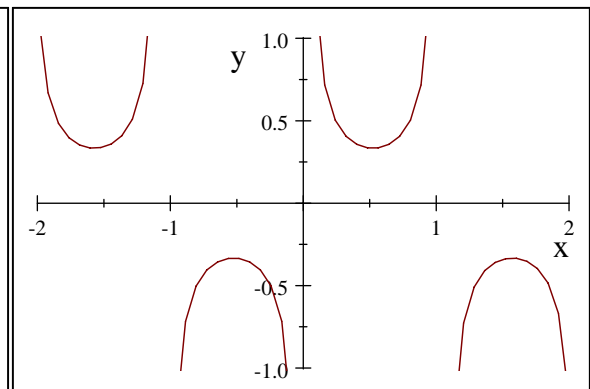
$\tan 2x$



$2 \sec \frac{\pi x}{2}$



$\cot 2x$



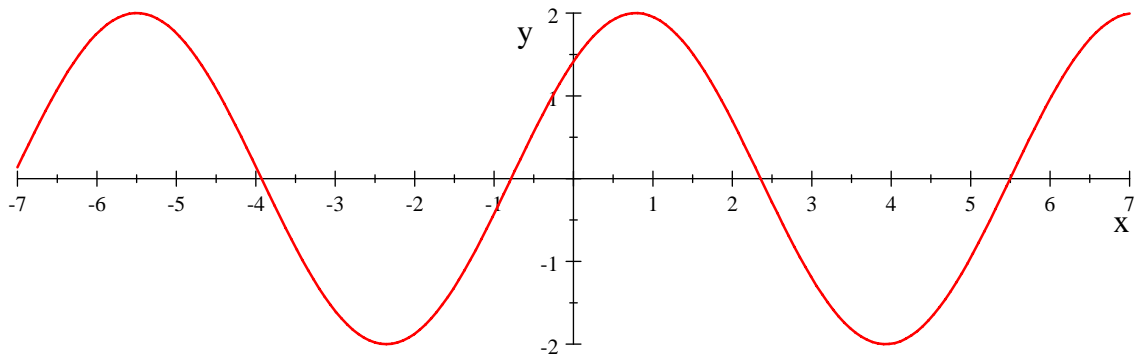
$\frac{\csc(3x)}{3}$

2. (2 points each) Determine the amplitude and the period of the following functions.

(a) For  $y = -5 \sin 2x$  the amplitude is equal to 5 and the period is equal to  $\pi$

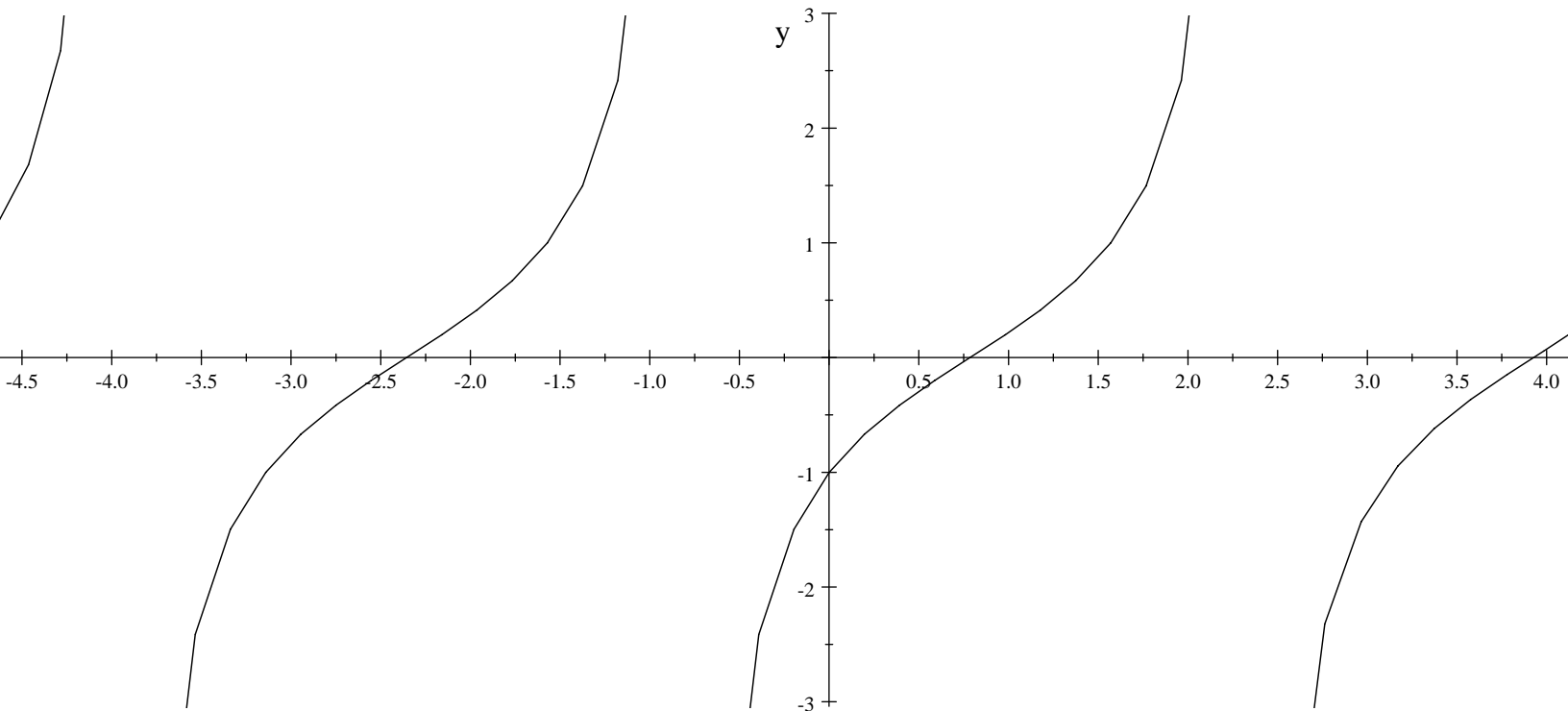
(b) For  $y = -2 \cos\left(\frac{x}{4}\right)$  the amplitude is equal to 2 and the period is equal to  $8\pi$

3. (8 points) **Graph the following function:  $y = 2 \sin\left(x + \frac{\pi}{4}\right)$  at least from  $x = -2\pi$  to  $x = 2\pi$  (Remark: you do not have the points  $\pm 2\pi$  marked on the  $x$ -line below but you know an approximate value of  $\pi$  so you know where these points should be located on that line). List below the graph all of the important points as indicated**



x-intercepts in this range are:  $0, -\frac{\pi}{4}, \frac{3\pi}{4}$ ; y-intercept:  $\sqrt{2}$ ; max = 2; min = -2

4. (7 points) **Graph the following function:  $y = \tan\left(x - \frac{\pi}{4}\right)$  at least from  $x = -\pi$  to  $x = \pi$  (Remark: you do not have the points  $\pm 2\pi$  marked on the  $x$ -line below but you know an approximate value of  $\pi$  so you know where these points should be located on that line). List below the graph all of the important points as indicated**



x-intercepts in this range are:  $-\frac{3\pi}{4}, \frac{\pi}{4}$ ; y-intercept: -1.