MATH. 125, QUIZ 6 - Section 4.5 & 4.6 (25 points = 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) \( y = \cos \left( x + \frac{\pi}{2} \right) \)  (d) \( y = 3 \sin \left( \frac{x}{3} \right) \)

(e) \( y = \tan 2x \)  (f) \( y = \cot (2x) \)  (g) \( y = 2 \sec x \)  (h) \( y = \frac{1}{3 \csc 3x} \)
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 _____ and the period is equal to _____
(b) For \( y = -2 \cos \left( \frac{x}{4} \right) \) the amplitude is equal to _____ and the period is equal to _____

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: ______; y-intercept: _____; max = _____; min = _____

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: ______; y-intercept: _____