

**Sheet # 220 - Algebra II.** Chapter 2.1 review lines; 2.2 functions

1. a) Find the point-slope form of the equation of the line passing through the points  $(2, -4.5)$  and  $(7, -4)$ .

For b and c: Consider the line  
 $LI: 12x + 6y - 13 = 0$ .

- b) Find the slope of all lines perpendicular to the line  $LI$ . (Just the value)

- c) Find the point-slope form of the equation of the line passing through the point  $(-1, 8)$  and perpendicular to  $LI$ .

2. Decide if the given relations are functions.

- a) *Circle one:* **Function** or **Not Function**

Input	3	9	12	18	23
Output	1	6	8	12	23

- b) *Circle one:* **Function** or **Not Function**

Input	1	6	8	6	-1
Output	6	7	9	13	10

- c) *Circle one:* **Function** or **Not Function**  
 $y^2 = 3x^2 + 8$

3. Given the function  $f(x) = -3x^2 + 2$ , find the values

a)  $f(1) =$

b)  $f(3) =$

c)  $f(x - 1) =$

4. Given the piece-wise function

$$f(x) = \begin{cases} 2x - 1, & x \geq 2 \\ x + 3, & x < 2 \end{cases} \text{ find the values}$$

a)  $f(1) =$

b)  $f(2) =$

c)  $f(2.5) =$

5. Find the  $x$  intercepts (zeros) of the following functions. You may use your calculator. Give the answer to 3 decimals.

a)  $g(x) = x^5 + x + 1$

b)  $h(x) = -4x^2 - 2x + 1$  has two zeros

Zero 1:

Zero 2: