ACMAT100 Spring 2026
Professor Manguba-Glover
Sections 2.6-3.2 Classwork (CW 6) Name: _____

Complete as many of the following problems as you can. You do not have to go in order. You can use a calculator to check your work but not to solve the problems.

If **your entire table** finishes early, you may leave early.

(1) Solve the follow inequalities:

(a) $|4x - 1| + 7 \leq 14$ (b) $|2x + 3| > 4$

(2) Plot the ordered pairs $(-9, 2)$, $(-1, -3)$, $(1, 3)$, and $(2, -4)$ on the rectangular coordinate plane. Label your points and indicate which quadrant each point is in.

(3) Find the following values, then try to sketch the graph of the equation $y = 5 - x^2$.

x	y
-3	
-2	
-1	
0	
1	
2	
3	

(4) Find the following values, then sketch the graph of the equation $y = -\frac{4}{3}x$

x	y
-9	
-6	
-3	
0	
3	
6	
9	

(5) Determine whether the given ordered pair is a solution to the given equation:

(a) $(-3, 6)$; $y = -\frac{2}{3}x + 4$

(b) $(1, 3)$; $2x + 3y = 6$

(c) $(1, -5)$; $y = x^2 + x - 7$

(d) $(8, 5)$; $y = \frac{5}{x - 7}$

(6) If $f(x) = 8x + 6$, find the following

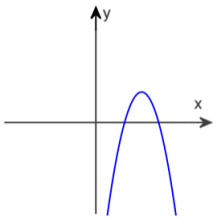
(a) $f(7)$ (b) $f(x + 4)$ (c) $f(-x)$

(7) If $f(x) = -4x^2 + 3x - 2$, find the following

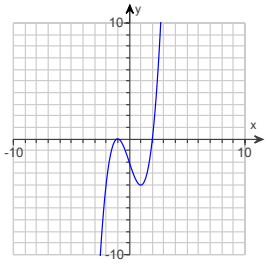
(a) $f(2)$ (b) $f(-1)$

(8) Use the vertical line test to determine if y is a function of x in the graph.

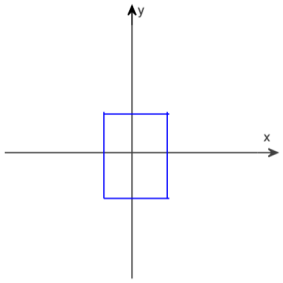
(a)



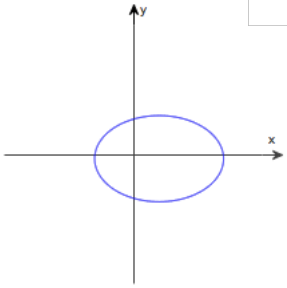
(b)



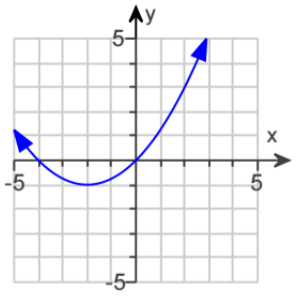
(c)



(d)



(9) Consider the following graph.



(a) Is this a function?

(b) Determine the domain and range.

(c) What is $f(2)$ and $f(-2)$?

(d) For what x-value(s) does $f(x) = 0$?

Key:

(1) (a) $\left[-\frac{3}{2}, 2\right]$
(b) $\left(-\infty, -\frac{7}{2}\right) \cup (2, \infty)$

(2) Use graphing utility to check

(3) Use graphing utility to check

(4) Use graphing utility to check

(5) (a) Yes
(b) Yes
(c) No
(d) Yes

(6) (a) 62
(b) $8x + 38$
(c) $-8x + 6$

(7) (a) -12
(b) -9

(8) (a) Yes
(b) No
(c) Yes
(d) No

(9) (a) Yes
(b) D: $(-\infty, \infty)$, R: $[-1, \infty)$
(c) 3 and -1
(d) $x = 0$ and $x = -4$