

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.

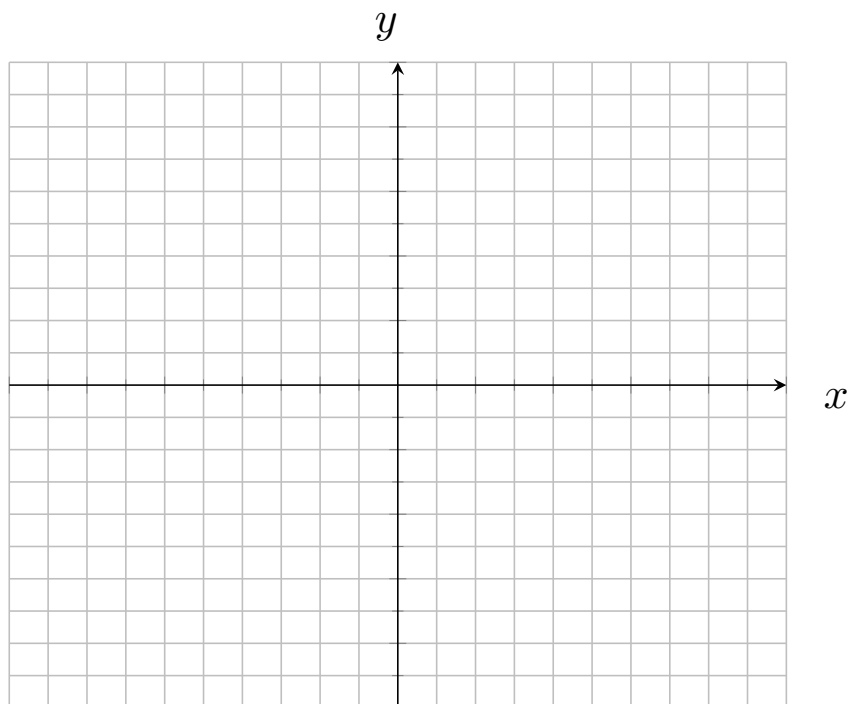
If **your entire table** finishes early, you may leave early.

(1) Solve the follow inequalities:

(a) $|4x - 1| + 7 \leq 14$

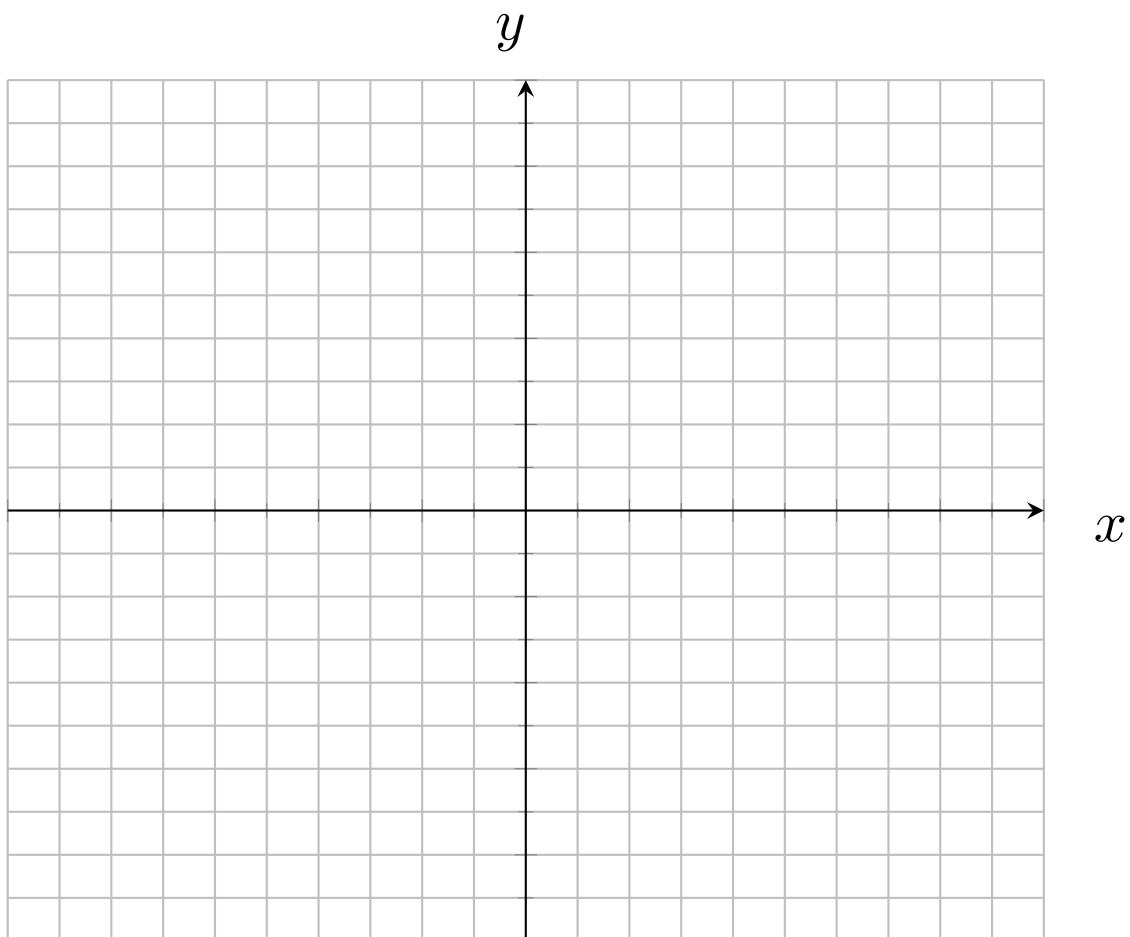
(b) $|2x + 3| > 4$

(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.



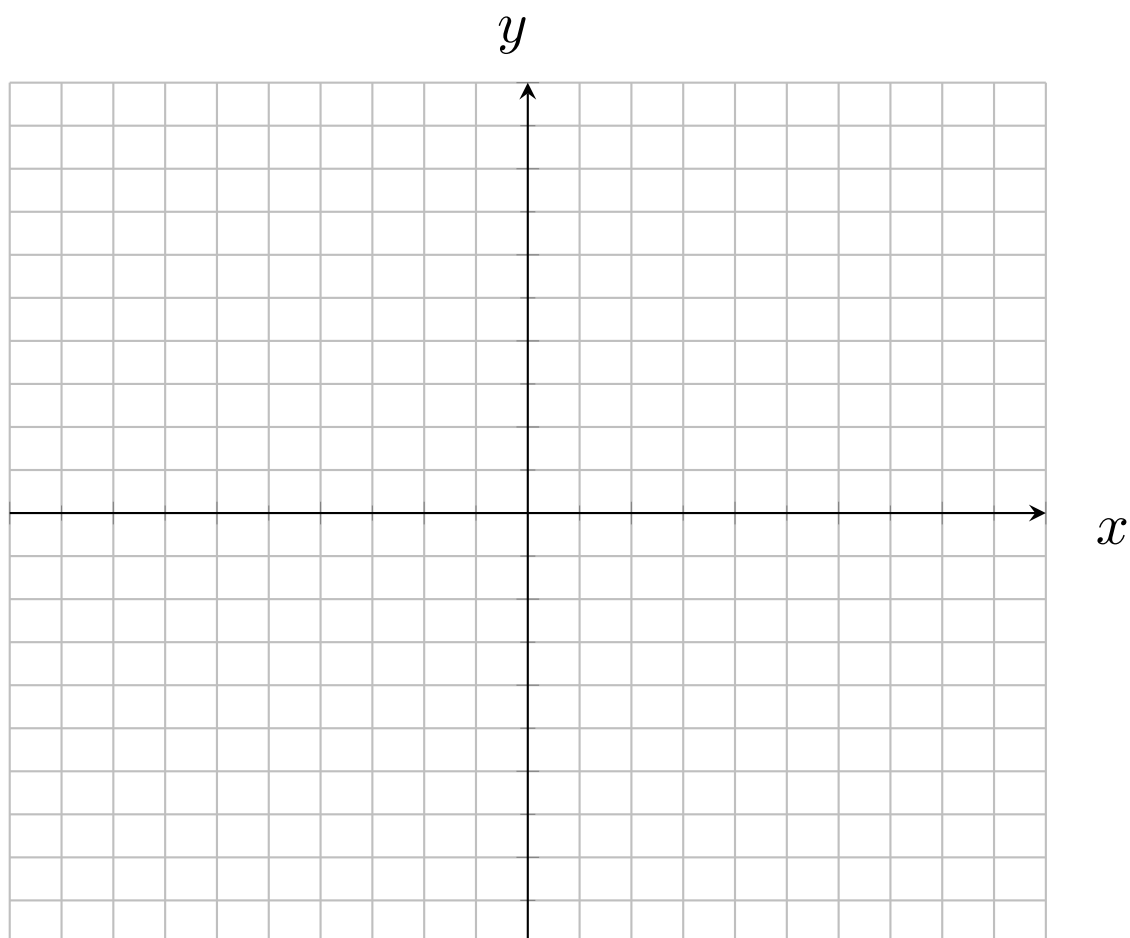
- (3) Find the following values, then try to sketch the graph of the equation $y = 5 - x^2$.

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

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

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

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

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

(a) $f(7)$

(b) $f(x + 4)$

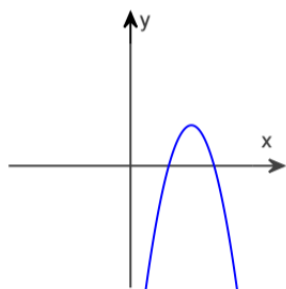
(c) $f(-x)$

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

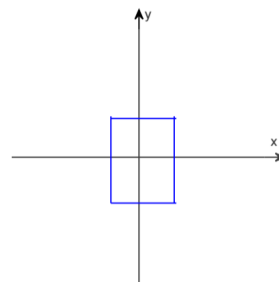
(a) $f(2)$

(b) $f(-1)$

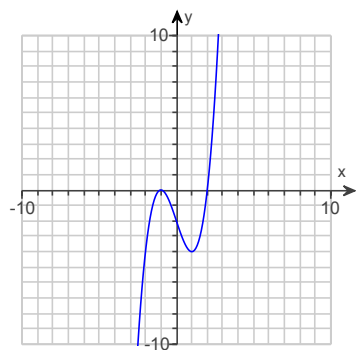
(8) Use the vertical line test to determine if y is a function of x in the graph.



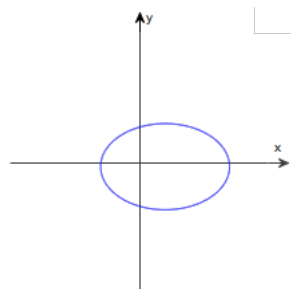
(a)



(c)

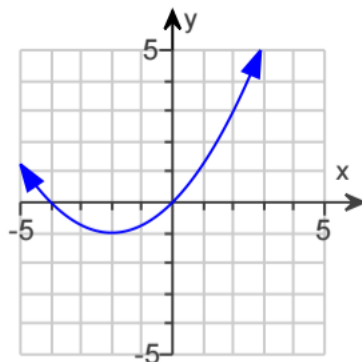


(b)



(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) $[-\frac{3}{2}, 2]$ | (c) No | (b) No |
| (b) $(-\infty, -\frac{7}{2}) \cup (2, \infty)$ | (d) Yes | (c) Yes |
| (2) Use graphing utility to check | (6) (a) 62 | (d) No |
| (3) Use graphing utility to check | (b) $8x + 38$ | (9) (a) Yes |
| (4) Use graphing utility to check | (c) $-8x + 6$ | (b) D: $(-\infty, \infty)$, R: $[-1, \infty)$ |
| (5) (a) Yes | (7) (a) -12 | (c) 3 and -1 |
| (b) Yes | (b) -9 | (d) $x = 0$ and $x = -4$ |
| | (8) (a) Yes | |