

MATH 30 - Precalculus. Homework 1. Due We. 02/05/2025. Professor Luis Fernández

If you hand it in, please use this sheet for your graphs or short answers; **STAPLE** any additional sheets.

1. For the function $f(x) = 3x - 5$, find (and simplify when possible)

a) $f(3) =$

b) $f(-4) =$

c) $f(t) =$

d) $f(x + 1) =$

e) $f(-x) =$

f) $f(x^2) =$

2. For the function $f(x) = \frac{3x^2 - 1}{x^2}$, find (and simplify when possible)

a) $f(2) =$

b) $f(-1) =$

c) $f(r) =$

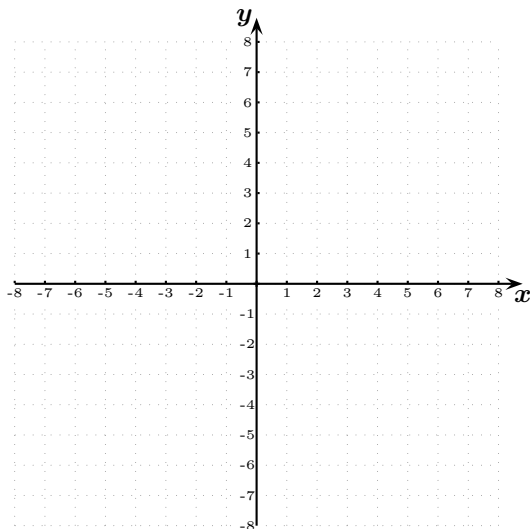
d) $f(x - 1) =$

e) $f(-x) =$

f) $f(x^3) =$

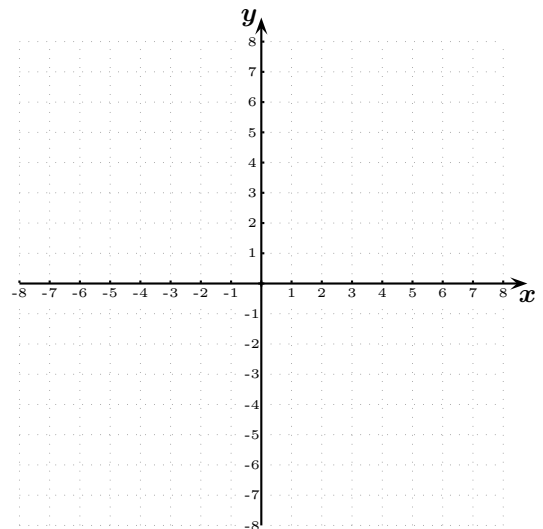
3. Make a table of values (take, for example, the integers between -6 and 6 ; you may want to use a calculator) and graph the following functions in the axes provided.

a) $f(x) = \sqrt{x+3}$



b) $g(x) = |x|$

(remember that $|x|$ means 'absolute value of x ')



4. Use the given graph of the function g to answer the questions below.

a) Find $g(-2) =$

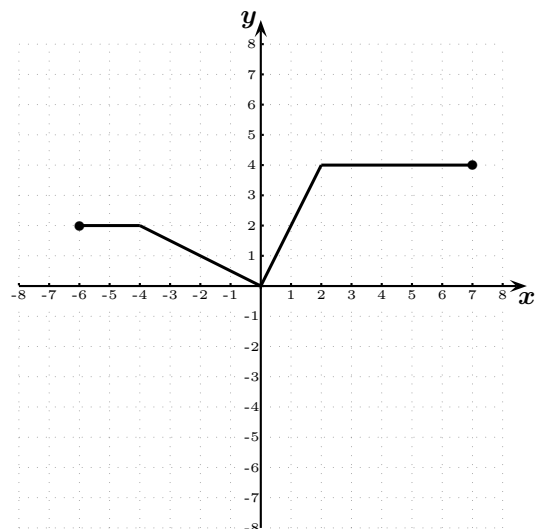
b) Find $g(0) =$

c) Find $g(1) =$

d) Find $g(-3) =$

e) Find $g(4) =$

f) Find $g(7) =$

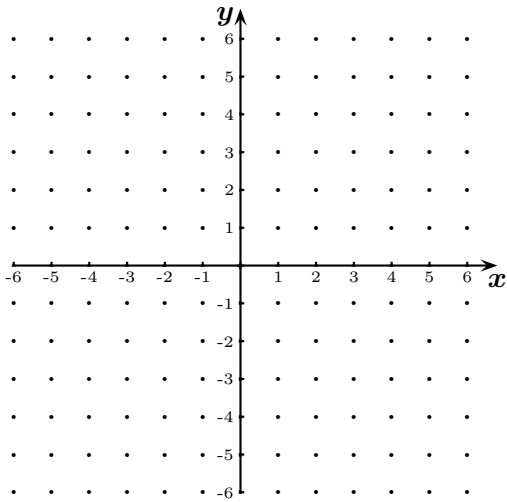


g) Find the domain of g and write it in interval notation.

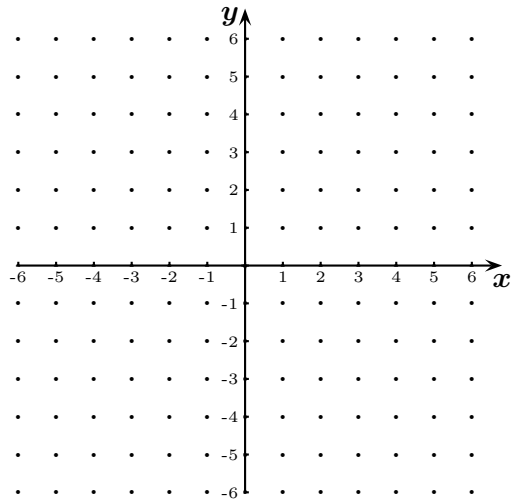
h) Find the range of g and write it in interval notation.

5. Graph the following lines.

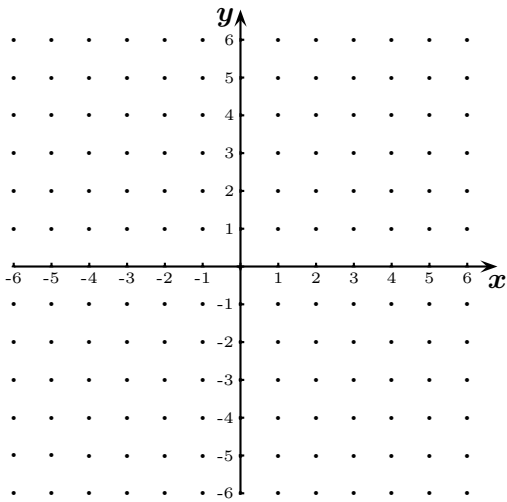
Graph $y = x - 3$ indicating at least two points.



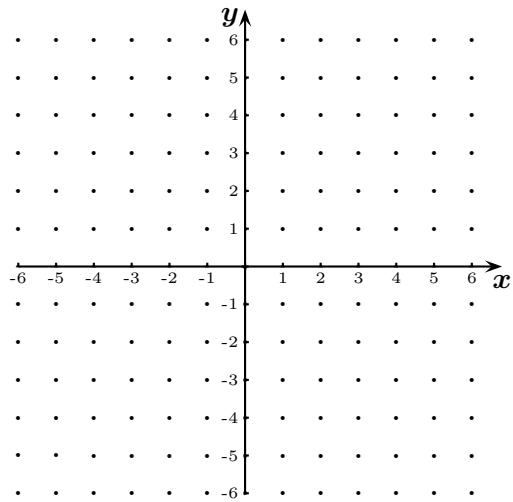
Graph $y = -2x + 3$ indicating at least two points.



Graph $3x - 2y = 6$ indicating at least two points.



Graph $x = 3$ indicating at least two points.



6. Find the equation of the line passing through the point $(1, 3)$ that is parallel to the line with equation $3x + 2y = 5$.

7. Find the equation of the line passing through the point $(-1, 2)$ that is perpendicular to the line with equation $3x + 2y = 5$.