§1.2: FUNCTION REPERTORY
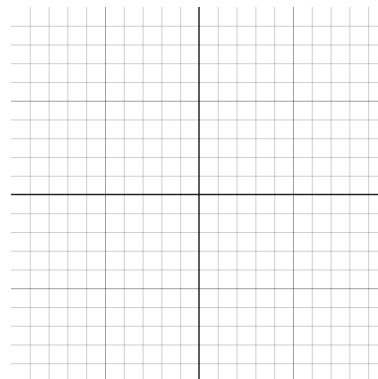
1.] Determine if the following function is algebraic or transcendental. Specifically, what type of function is it? Find the domain and intercepts of the function. Sketch a rough drawing of the function
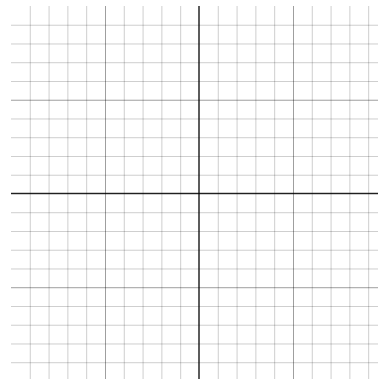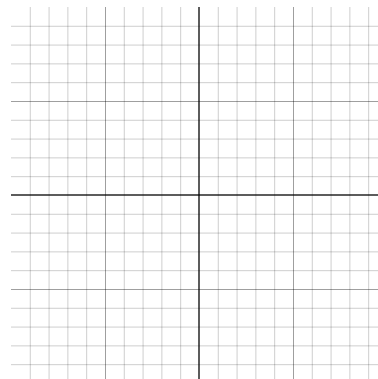
$$f(x) = 2x^2 - 3x - 2$$

2.] Determine if the following function is algebraic or transcendental. Specifically, what type of function is it? Find the domain and intercepts of the function. Sketch a rough drawing of the function
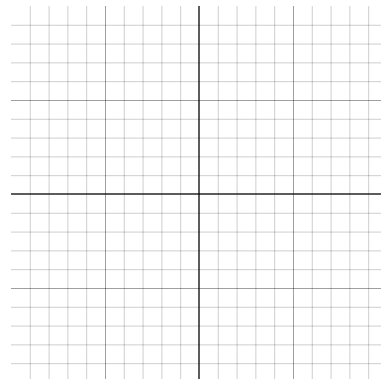
$$f(x) = \sqrt[3]{x}$$

3.] Determine if the following function is algebraic or transcendental. Specifically, what type of function is it? Find the domain, asymptotes, and intercepts of the function. Sketch a rough drawing of the function

$$f(x) = \frac{x^2 + 2x}{x + 1}$$

4.] Determine if the following function is algebraic or transcendental. Specifically, what type of function is it? Find the domain, asymptotes, and intercepts of the function. Sketch a rough drawing of the function
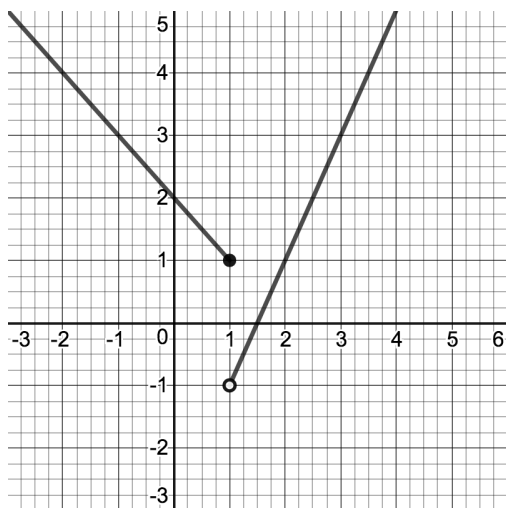
$f(x) = 2^x$

5.] Determine if the following function is algebraic or transcendental. Specifically, what type of function is it? Find the domain, range, and intercepts of the function and then sketch the graph of the function.

$f(x) = \sin(x)$
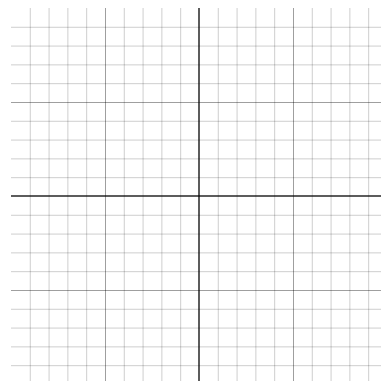
6.] Consider the graph of the piecewise function $f(x)$ below.

a.) Domain:

b.) Range:

c.) $f(2)$

d.) $f(1)$

e.) $f(3)$

f.) $f(-1)$

g.) f is decreasing on

h.) f is increasing on

Find an expression for the function $f(x)$.