Name:_____
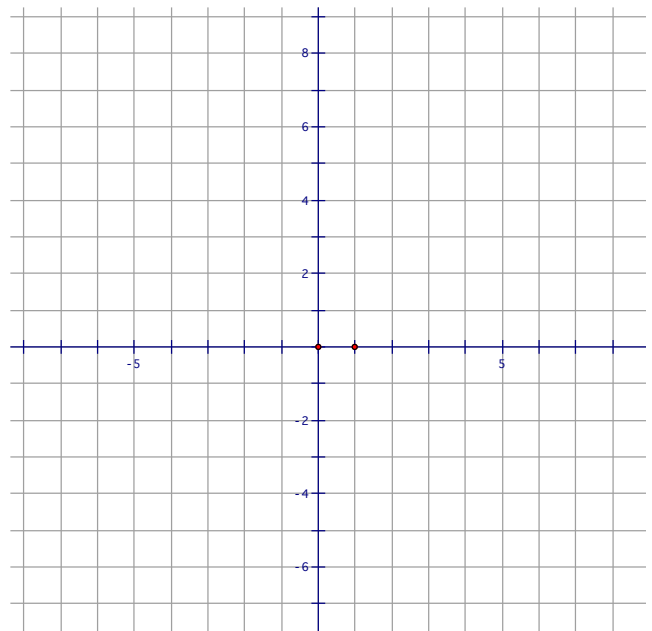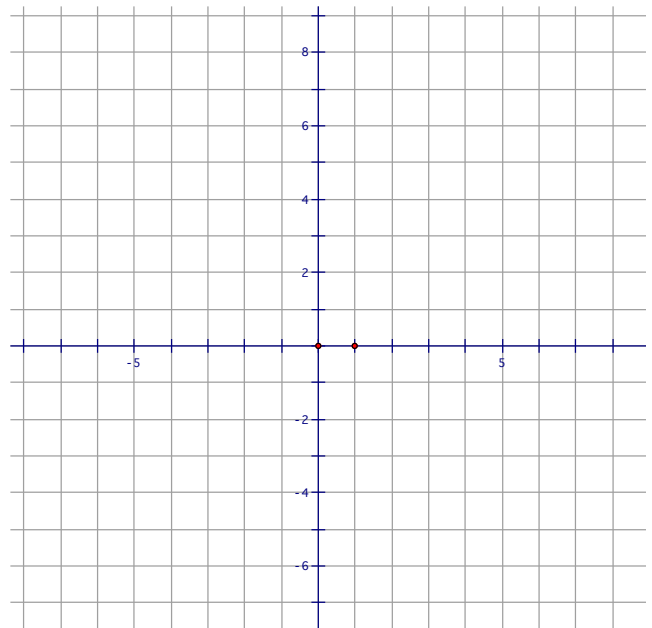
1. Graph. $f(x) = \begin{cases} |x+4|+6 & \text{for } -6 \le x \le -2 \\ x^2-2 & \text{for } -2 < x < 2 \\ |x-4|+6 & \text{for } 2 \le x \le 6 \end{cases}$

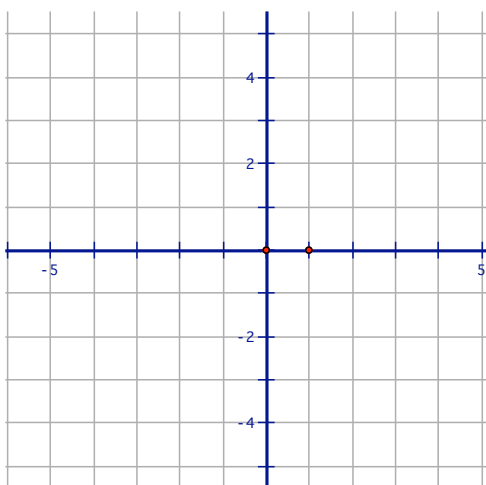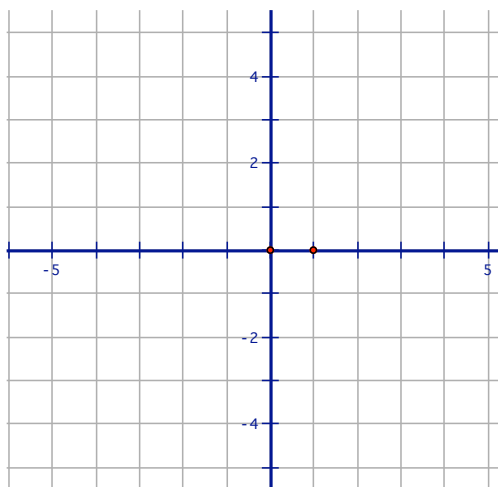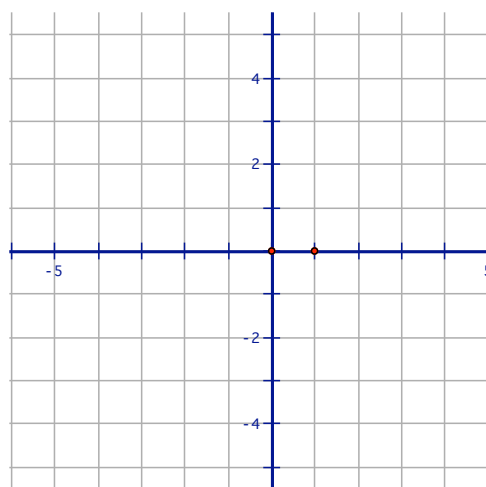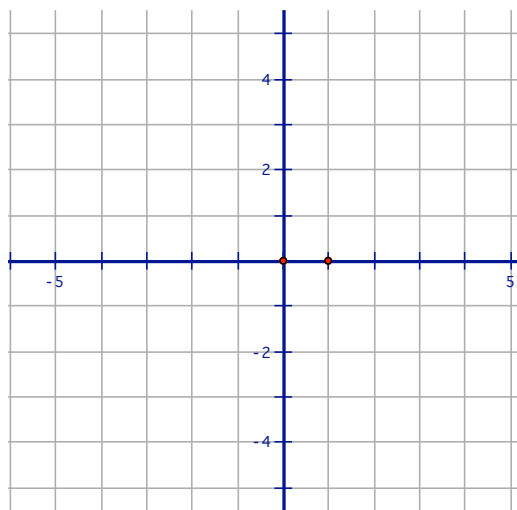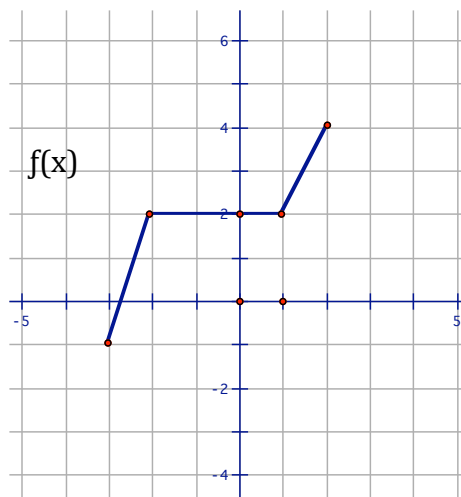2. Graph. $f(x) = \begin{cases} -(x+2)^2-1 & \text{for } x \le -2 \\ -x & \text{for } -2 < x < 2 \\ (x-2)^2+1 & \text{for } x \ge 2 \end{cases}$

3. Use the graph of ƒ(x) to graph the function.

a. $y = -\dfrac{1}{2}f(x)$
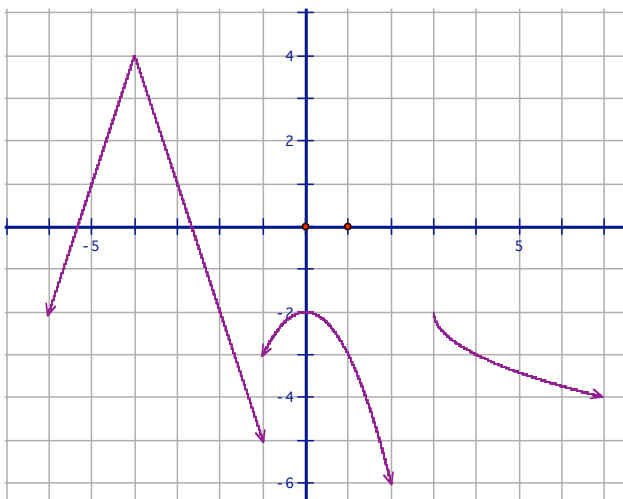
b. $y = f(x) - 2$

c. $y = f(x-1) + 2$

d. $y = f(-x)$

ƒ(x)

4. Evaluate the function at each specified value of x.

$$f(x) = \begin{cases} -|x+4|-1 & \text{for} \quad x \le -1 \\ (x-1)^2 + 2 & \text{for} \quad -1 < x < 2 \\ -2 & \text{for} \quad x \ge 2 \end{cases}$$

a. $f(-5)$
b. $f(-1)$
c. $f(0)$
d. $f(2)$

5. Find the equation for the piecewise function below. State the range and domain.

6. Graph. State the range and domain.

$$f(x) = \begin{cases} -\frac{1}{3}|x+4|-1 & \text{for} \quad x \le -1 \\ 2(x-1)^2 - 3 & \text{for} \quad -1 < x < 2 \\ -2 & \text{for} \quad x \ge 2 \end{cases}$$