

Key

Assignment #2

L. 1.2 Homework (Due on August 17th, the 1st day of school)

1. Graph the following functions on paper. Before automatically getting out your graphing calculators, try first using your brains to graph these functions. You might be surprised!

↳ If you would like some plain graph paper, here you go. [Graph Paper \(-9 to 9\)](#)

2. Try to identify the domain and range for each function using *interval notation*.

3. Try to identify which one of the 10 functions is an *even function*. (Only 1 of them is!)

(a) $f(x) = -2x + 4$

Domain: $(-\infty, \infty)$

Range: $(-\infty, \infty)$

(b) $f(x) = -2x^3 + 4$

Domain: $(-\infty, \infty)$

Range: $(-\infty, \infty)$

(c) $f(x) = \sqrt{x+7}$

Domain: $[-7, \infty)$

Range: $[0, \infty)$

(d) $f(x) = \sqrt{x+7} - 2$

Domain: $[-7, \infty)$

Range: $[-2, \infty)$

(e) $f(x) = |x+3|$

Domain: $(-\infty, \infty)$

Range: $[0, \infty)$

(f) $f(x) = |x+3| - 5$

Domain: $(-\infty, \infty)$

Range: $[-5, \infty)$

(g)

$$f(x) = \begin{cases} 1, & x < 0 \\ \sqrt{x}, & x \geq 0 \end{cases}$$

Domain: $(-\infty, \infty)$

Range: $[0, \infty)$

(h)

$$f(x) = \begin{cases} -3, & x < -2 \\ \sqrt{4-x^2}, & -2 \leq x \leq 2 \\ 3, & x > 2 \end{cases}$$

Domain: $(-\infty, \infty)$

Range: $[-3] \cup [0, 2] \cup [3]$

(i) $f(x) = \sqrt{4-x^2}$

Domain: $[-2, 2]$

Range: $[0, 2]$

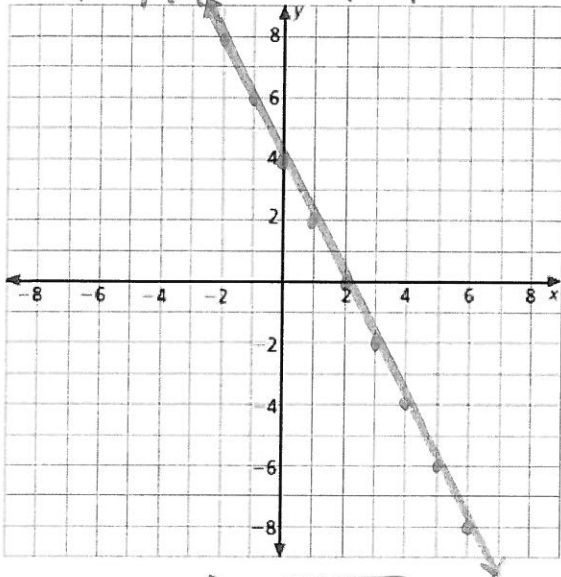
Even

(j) $f(x) = \frac{1}{x+3}$

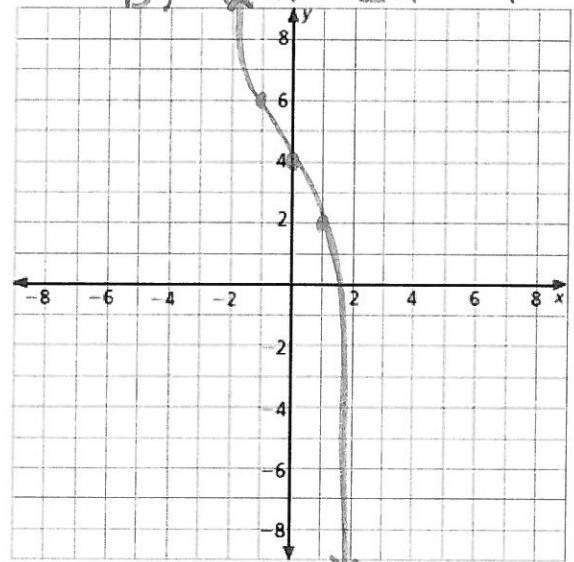
Domain: $(-\infty, -3) \cup (-3, \infty)$

Range: $(-\infty, 0) \cup (0, \infty)$

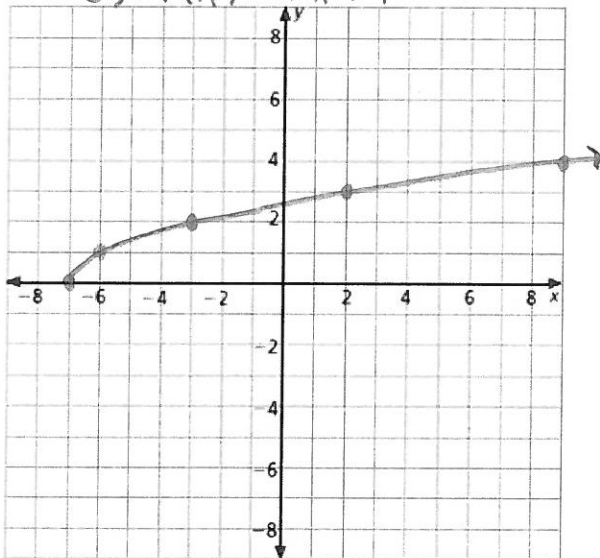
a) $f(x) = -2x + 4$



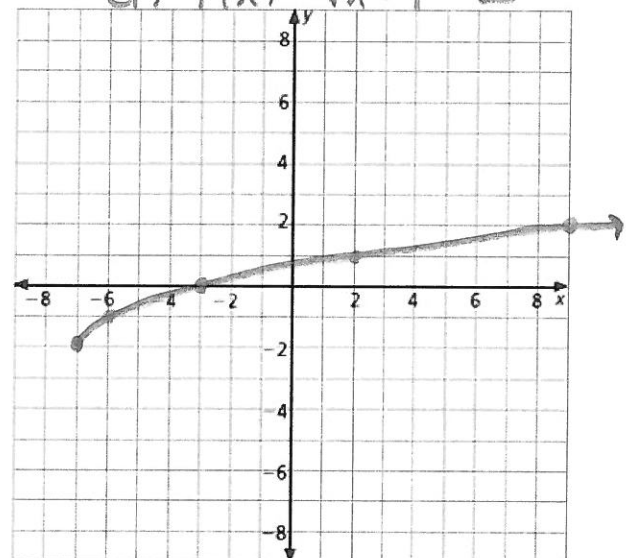
b) $f(x) = -2x^3 + 4$



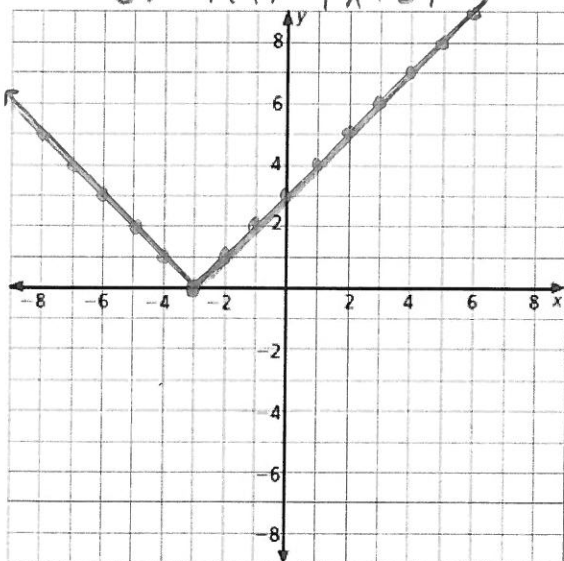
c) $f(x) = \sqrt{x+7}$



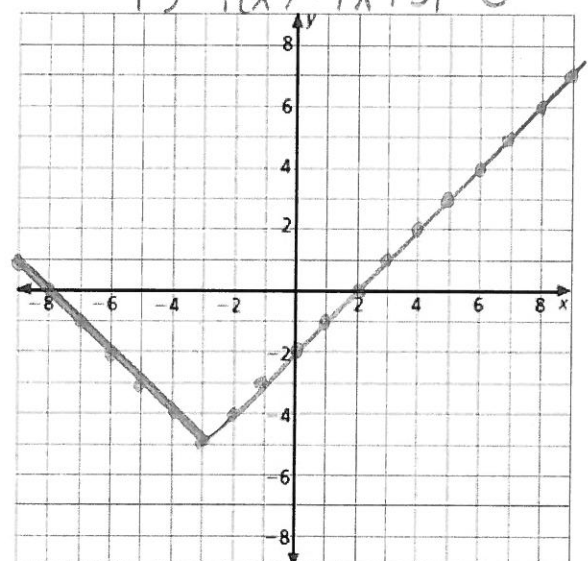
d) $f(x) = \sqrt{x+7} - 2$



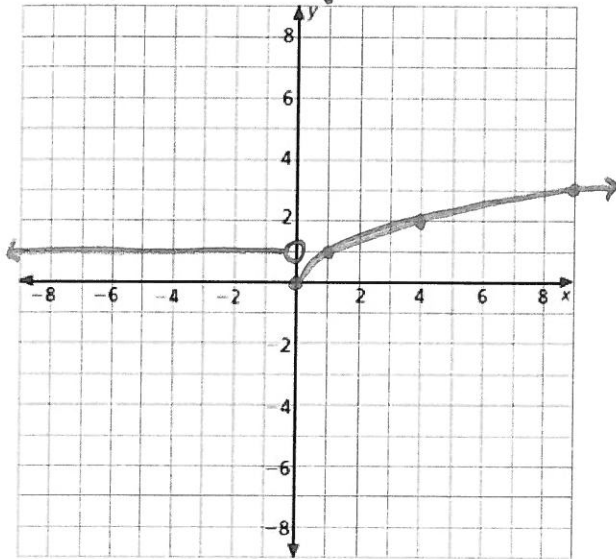
e) $f(x) = |x+3|$



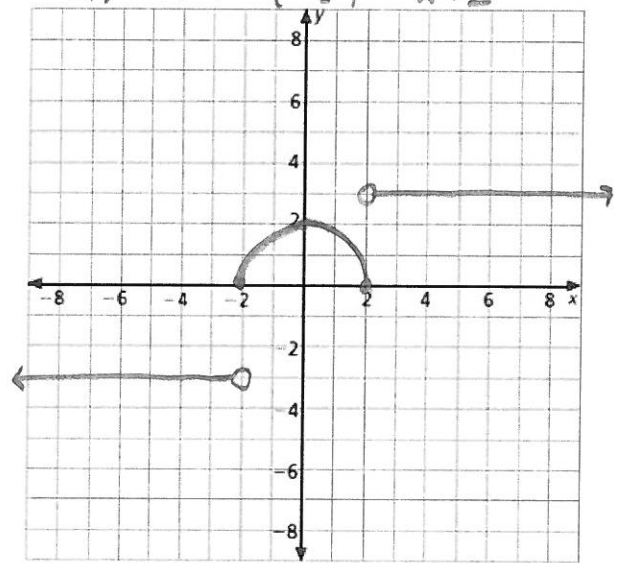
f) $f(x) = |x+3| - 5$



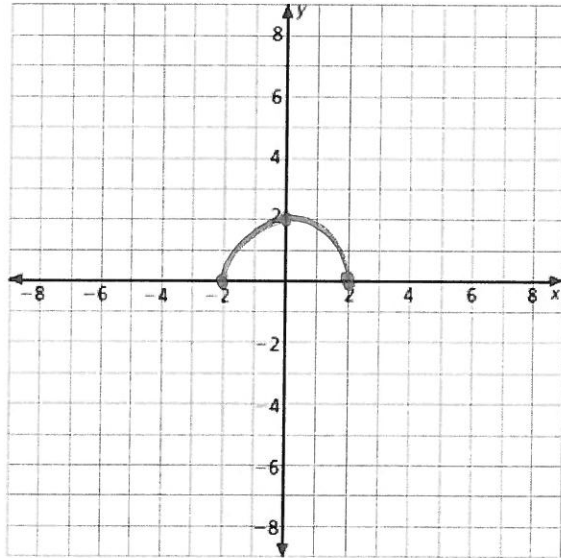
$$g) f(x) = \begin{cases} 1, & x < 0 \\ \sqrt{x}, & x \geq 0 \end{cases}$$



$$h) f(x) = \begin{cases} -3, & x < -2 \\ \sqrt{4-x^2}, & -2 \leq x \leq 2 \\ 3, & x > 2 \end{cases}$$



$$i) f(x) = \sqrt{4-x^2}$$



$$j) f(x) = \frac{1}{x+3}$$

