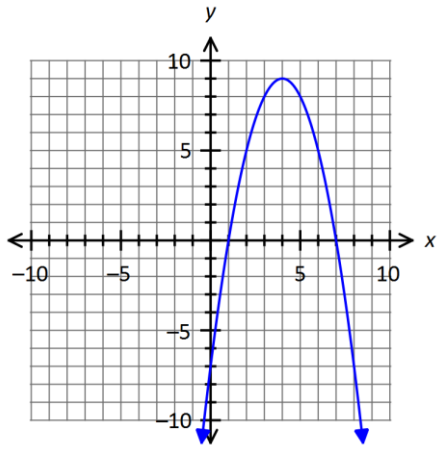
SM 2

Name:_____ Period:_____

2.4 Analyzing Function Graphs: Symmetry, End Behavior, Review

Write whether the graph has even, odd or no symmetry. Write the end behaviors in limit notation. If a limit does not exist, write DNE.

1. $f(x) = -x^2 + 8x - 7$

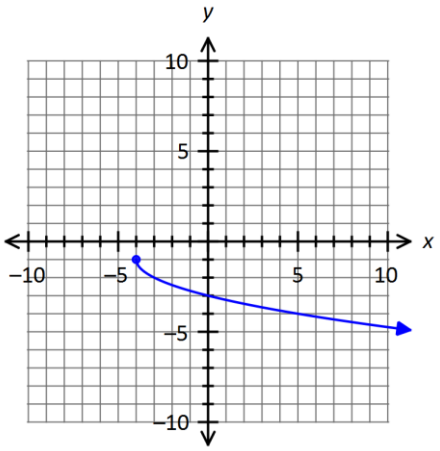


Symmetry:_____

Left End Behavior: $\lim_{x \to -\infty} f(x) =$ _____

Right End Behavior: $\lim_{x \to \infty} f(x) =$ _____

2. $f(x) = -\sqrt{x+4} - 1$

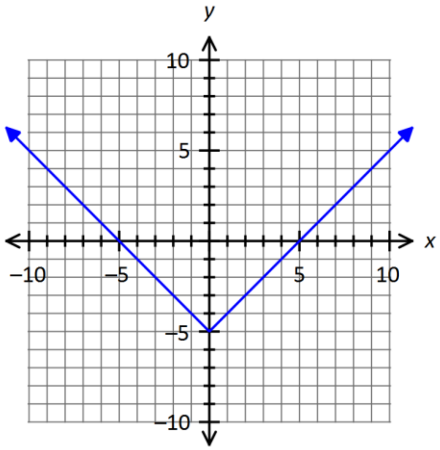


Symmetry:_____

Left End Behavior: $\lim_{x \to -\infty} f(x) =$ _____

Right End Behavior: $\lim_{x \to \infty} f(x) =$ _____

3. $g(x) = |x| - 5$

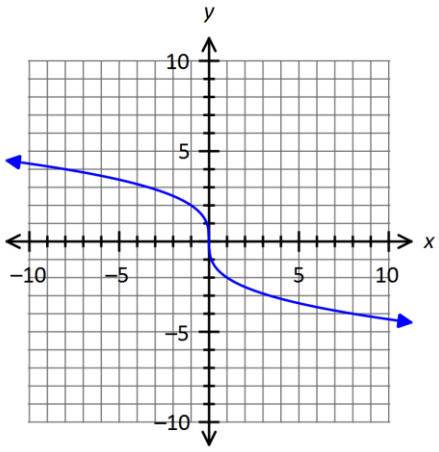


Symmetry:_____

Left End Behavior: $\lim_{x \to -\infty} f(x) =$ _____

Right End Behavior: $\lim_{x \to \infty} f(x) =$ _____

4. $g(x) = -2\sqrt[3]{x}$

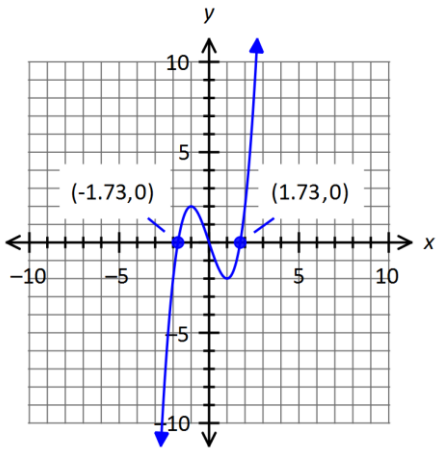


Symmetry:_____

Left End Behavior: $\lim_{x\to-\infty} f(x) =$ _____

Right End Behavior: $\lim_{x\to\infty} f(x) =$ _____

5. $h(x) = x^3 - 3x$

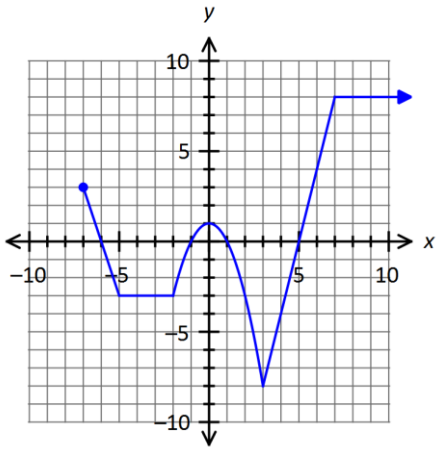


Symmetry:_____

Left End Behavior: $\lim_{x\to-\infty} f(x) =$ _____

Right End Behavior: $\lim_{x\to\infty} f(x) =$ _____

6.



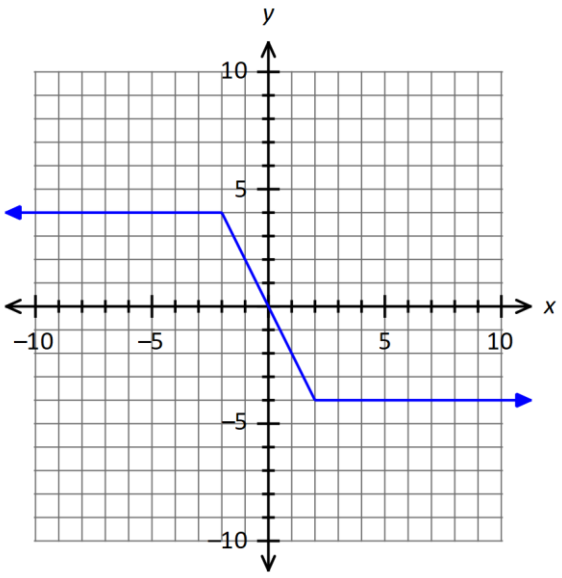
Symmetry:_____

Left End Behavior: $\lim_{x\to-\infty} f(x) =$ _____

Right End Behavior: $\lim_{x\to\infty} f(x) =$ _____

A. Write the domain and range in interval notation.
B. Write the maximum and minimum <u>points</u> as ordered pairs and the <u>values</u> as the $y-$coordinate.
C. Write the intervals where the graph is increasing, decreasing, and constant in interval notation.
D. Write the intercepts as ordered pairs.
E. Write the intervals in interval notation where the graph is positive and negative. If something is not applicable to the graph, write N/A.
F. Write whether the graph has even, odd or no symmetry.
G. Write the end behaviors in limit notation. If a limit does not exist, write DNE.
*****If something is not applicable to the graph, write N/A.**

7.



Domain:_____ Range:_____

x-intercept(s):_____ *y*-intercept:_____

Positive:_____ Negative:_____

Relative Maximum Point:_____ Value:_____

Relative Minimum Point:_____ Value:_____

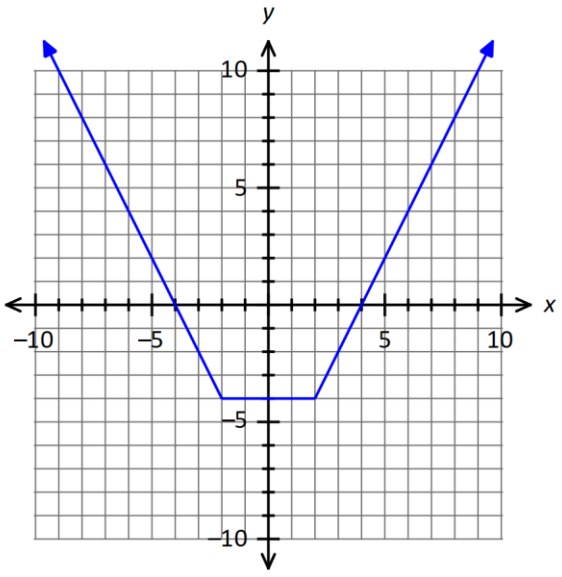
Increasing:_____ Decreasing:_____

Constant:_____ Symmetry: _____

Left End Behavior: $\lim_{x\to-\infty} f(x) =$ _____

Right End Behavior: $\lim_{x\to\infty} f(x) =$ _____

8.



Domain:_____ Range:_____

x-intercept(s):_____ *y*-intercept:_____

Positive:_____ Negative:_____

Relative Maximum Point:_____ Value:_____

Relative Minimum Point:_____ Value:_____

Increasing:_____ Decreasing:_____

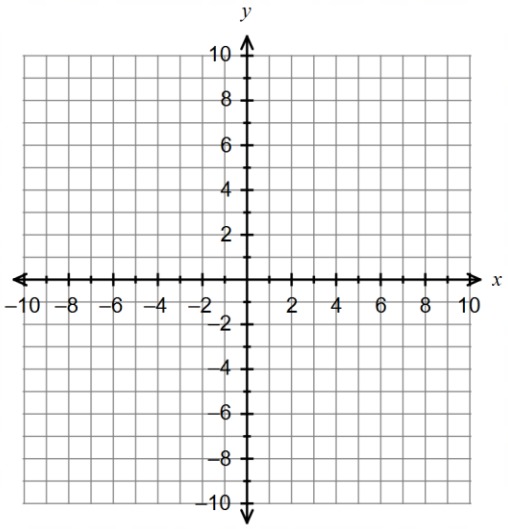
Constant:_____ Symmetry: _____

Left End Behavior: $\lim_{x\to-\infty} f(x) =$ _____

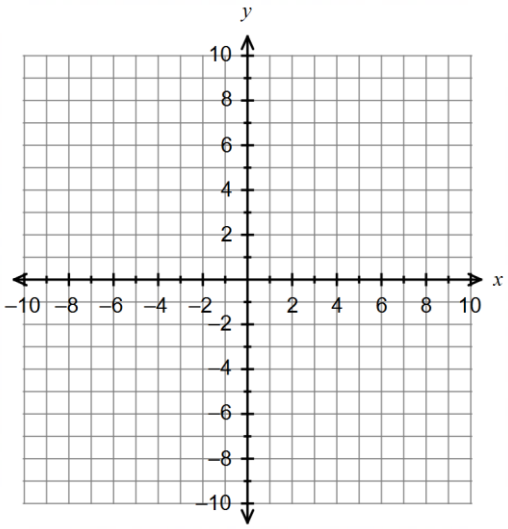
Right End Behavior: $\lim_{x\to\infty} f(x) =$ _____

Create a graph that satisfies the given description.

9. Domain: $[-7,7]$
   Range: $[-2,4]$
   Decreasing: $(-7,4)\cup(4,7)$
   Increasing: $(-4,-1)$
   Constant: $(-1,4)$



10. Domain: $[-4,7]$
    Range: $[-2,2]$
    Positive: $(-2,3)\cup(3,7]$
    Negative: $[-4,2)\cup(3,5)$



11. Domain: $(-\infty,\infty)$
    Range: $[-5,\infty)$
    Increasing: $(1,\infty)$
    Decreasing: $(-\infty,1)$
    Constant: Nowhere
    Positive: $(-\infty,-1)\cup(3,\infty)$
    Negative: $(-1,3)$