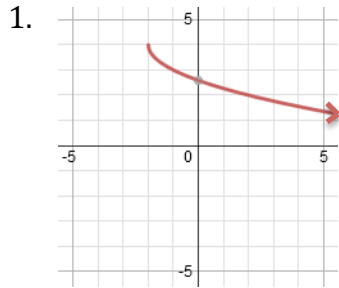


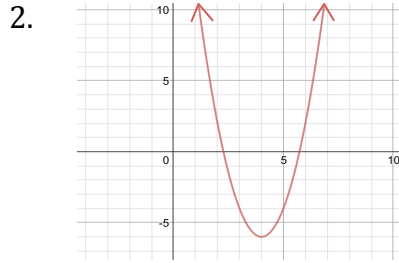
Algebra 2 Functions Unit Review 2

SHOW ALL WORK on the worksheet

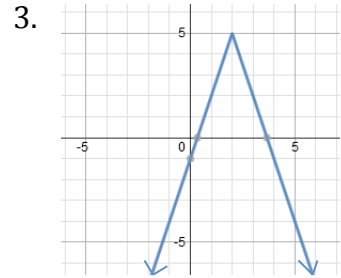
Write the equation of each function



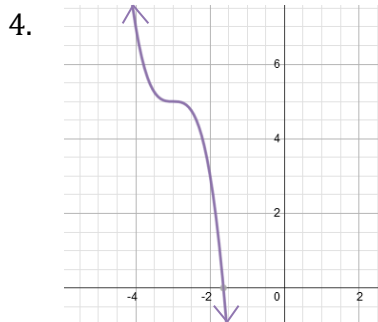
$$f(x) = -\sqrt{x+2} + 4$$



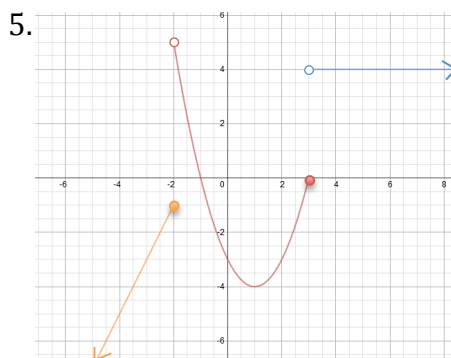
$$h(x) = 2(x-4)^2 - 6$$



$$y = -3|x-2| + 5$$



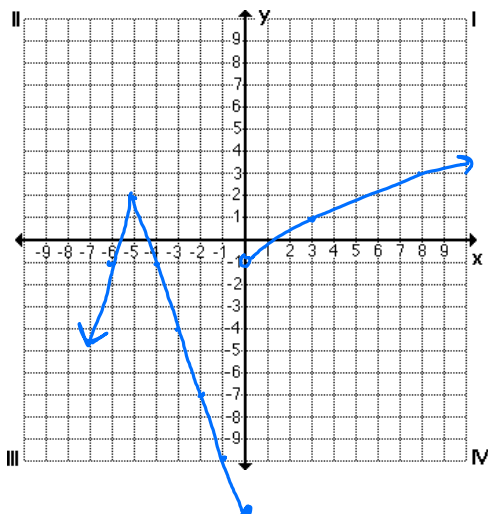
$$g(x) = -\frac{1}{2}(x+3)^3 + 5$$



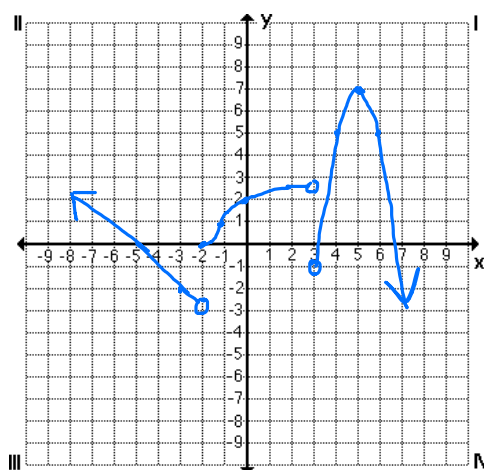
$$f(x) = \begin{cases} 2x+3 & \text{if } x \leq -2 \\ (x-1)^2 - 4 & \text{if } -2 < x \leq 3 \\ 4 & \text{if } x > 3 \end{cases}$$

Graph each function

6.
$$g(x) = \begin{cases} 2\sqrt{x+1} - 3 & \text{if } x > 0 \\ -3|x+5| + 2 & \text{if } x \leq 0 \end{cases}$$

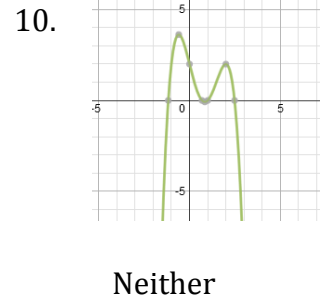
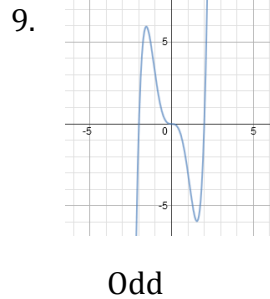
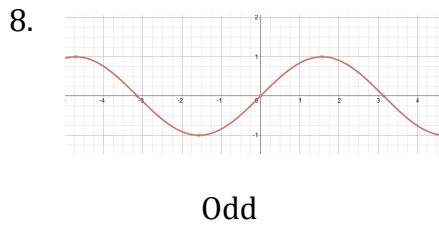


7.
$$f(x) = \begin{cases} -\frac{2}{3}x - 4 & \text{if } x < -2 \\ \sqrt[3]{x-1} + 1 & \text{if } -2 \leq x < 3 \\ -2(x-5)^2 + 7 & \text{if } x > 3 \end{cases}$$



Algebra 2 Functions Unit Review 2

Determine if each function is even, odd, or neither

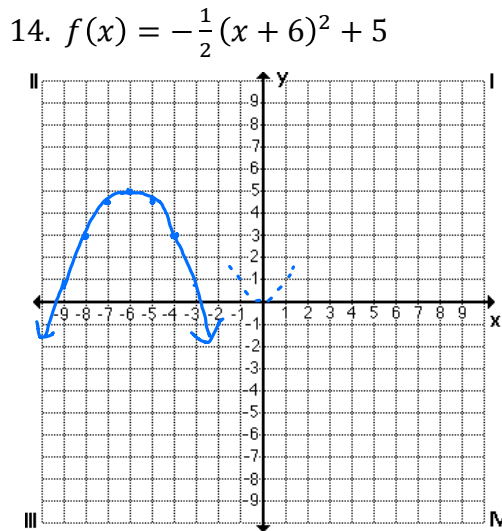


11. $h(x) = 2x - 4$
 $h(-x) = 2(-x) - 4$
 $= -2x - 4$
 Neither

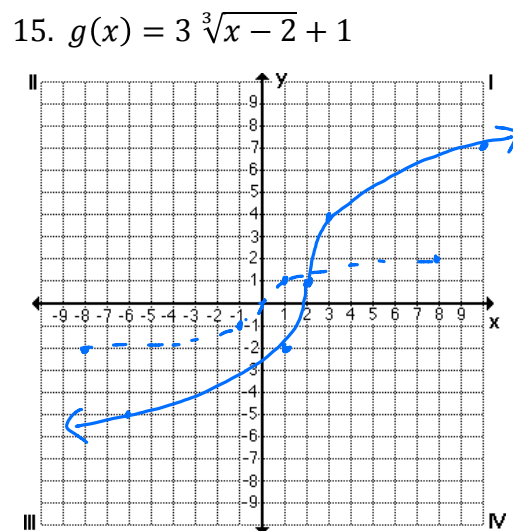
12. $f(x) = -x^4 + 2x^2 - 3$
 $f(-x) = -(-x)^4 + 2(-x)^2 - 3$
 $= -x^4 + 2x^2 - 3$
 $f(-x) = f(x)$
 Even

13. $t(x) = \frac{5}{x}$
 $t(-x) = \frac{5}{-x}$
 $= -\frac{5}{x}$
 $t(-x) = -t(x)$
 Odd

Graph each function. Identify the key characteristics.



Domain: $\mathbb{R}$
 Range: $(-\infty, 5]$
 x-int: $(-9.5, 0), (-2.5, 0)$
 y-int: $(0, -13)$
 Increase: $(-\infty, -6)$
 Decrease: $(-6, \infty)$
 End Behavior: $x \rightarrow \infty, f(x) \rightarrow -\infty$
 $x \rightarrow -\infty, f(x) \rightarrow -\infty$
 Symmetry: $x = -6$
 Even/Odd: Neither



Domain: $\mathbb{R}$
 Range: $\mathbb{R}$
 x-int: $(1.8, 0)$
 y-int: $(0, 3\sqrt[3]{-2} + 1)$
 Increase: $\mathbb{R}$
 Decrease: None
 End Behavior: $x \rightarrow \infty, f(x) \rightarrow \infty$
 $x \rightarrow -\infty, f(x) \rightarrow -\infty$
 Symmetry: point $(2, 1)$
 Even/Odd: None