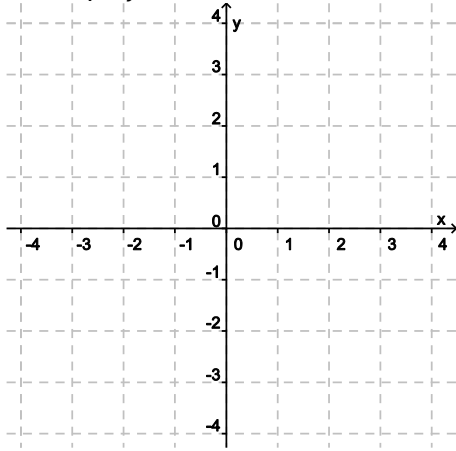
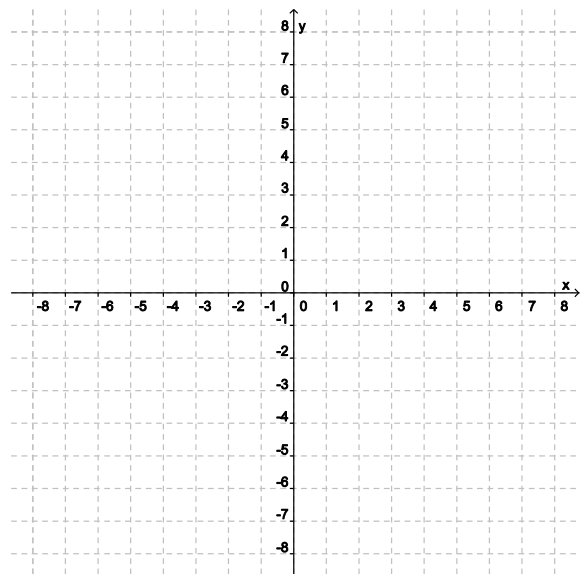


1. Graph  $f(x) = -2|x| + 1$ . Be sure to describe the transformations to the basic function.

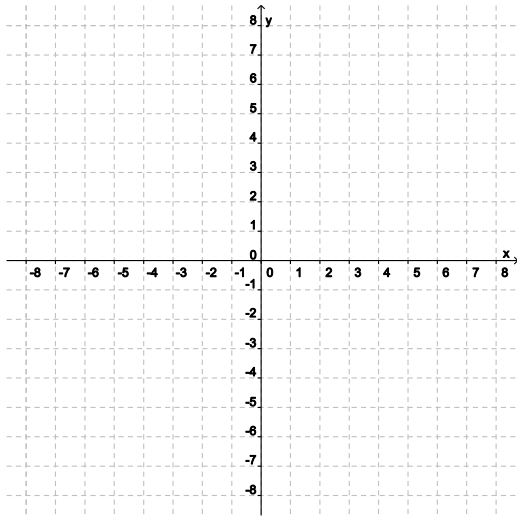


2. Graph  $f(x) = \begin{cases} -5 & \text{if } x < -1 \\ x^2 + 1 & \text{if } -1 \leq x < 2. \\ 2 - x & \text{if } x \geq 2 \end{cases}$ .

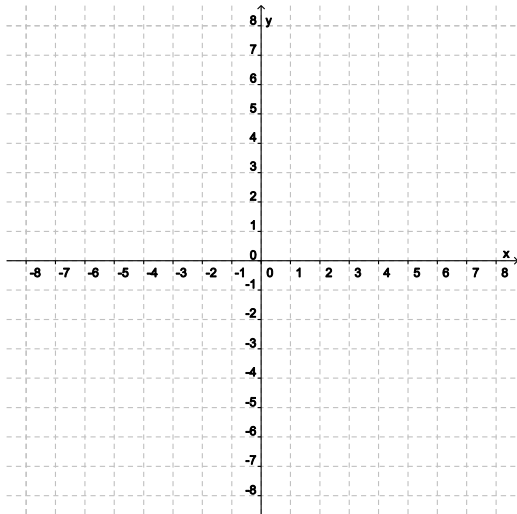


3. Determine whether  $f(x) = 3x^5 + 5x^4$  is even, odd, or neither. Be sure to show how you got your answer.

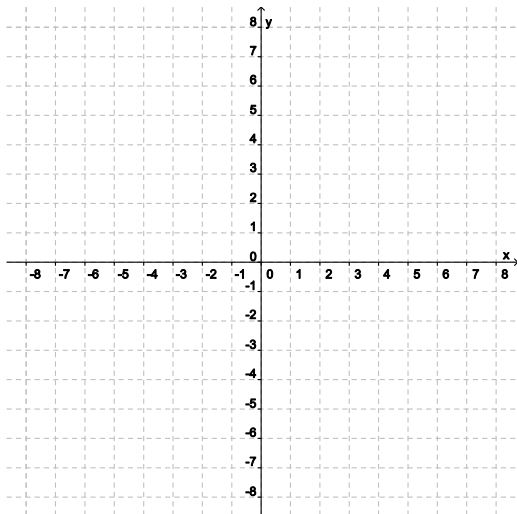
4. Graph  $f(x) = 3\left|-\frac{x}{2} + 1\right|$ . Be sure to describe the transformations to the basic function.



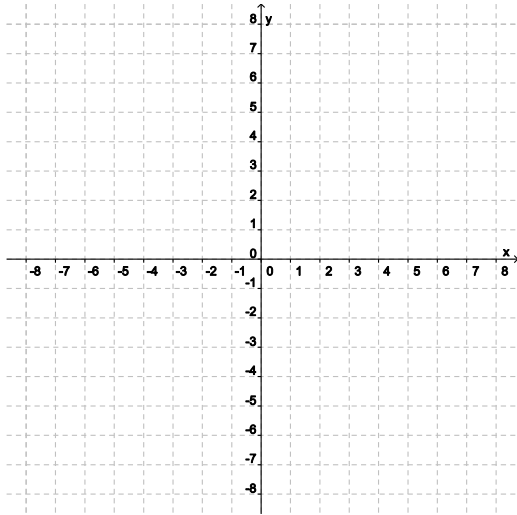
5. Graph  $f(x) = -2|x| - 3$ . Be sure to describe the transformations to the basic function.



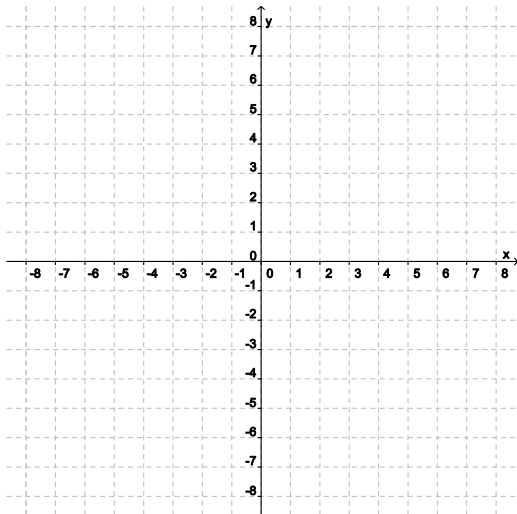
6. Graph  $f(x) = 4 - (x + 1)^2$ . Be sure to describe the transformations to the basic function.



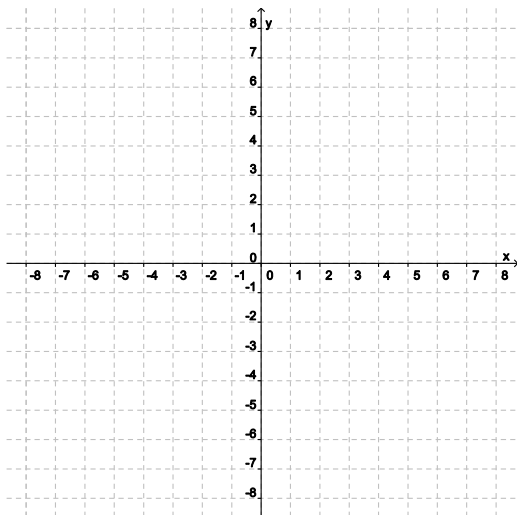
7. Graph  $f(x) = \frac{1}{2}(x + 2)^2 - 1$ . Be sure to describe the transformations to the basic function.



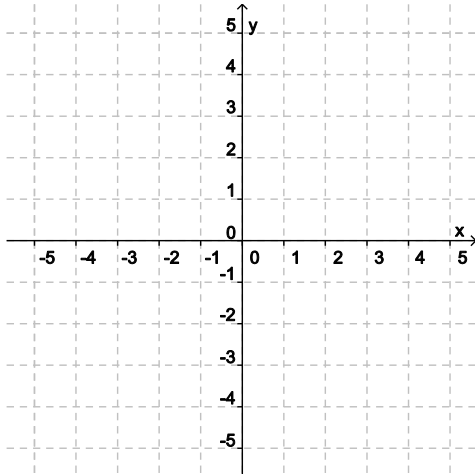
8. Graph  $f(x) = -\sqrt{-x + 1} - 3$ . Be sure to describe the transformations to the basic function.



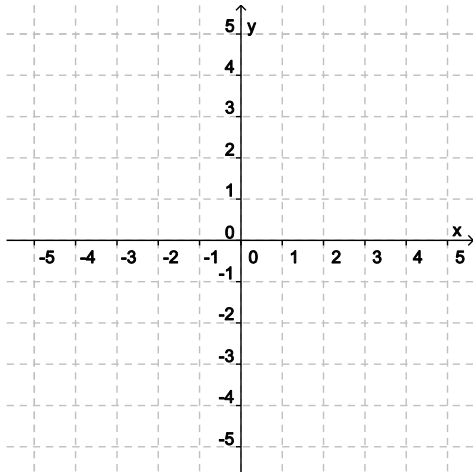
9. Graph  $f(x) = 1 + \frac{1}{2}\sqrt{-(x + 2)}$ . Be sure to describe the transformations to the basic function.



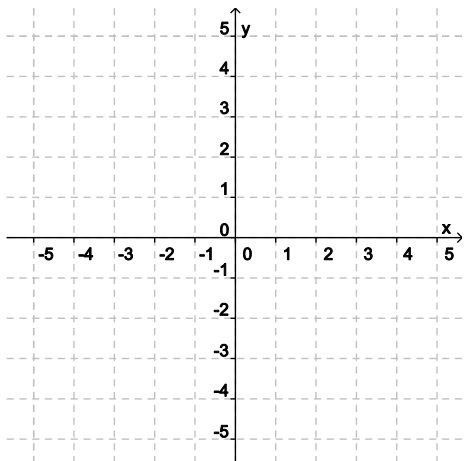
10. Graph  $f(x) = \frac{2}{x-1} + 1$ . Be sure to describe the transformations to the basic function.



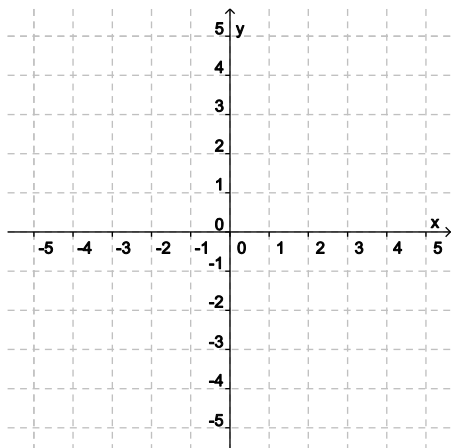
11. Graph  $f(x) = 2 - \frac{1}{x+3}$ . Be sure to describe the transformations to the basic function.



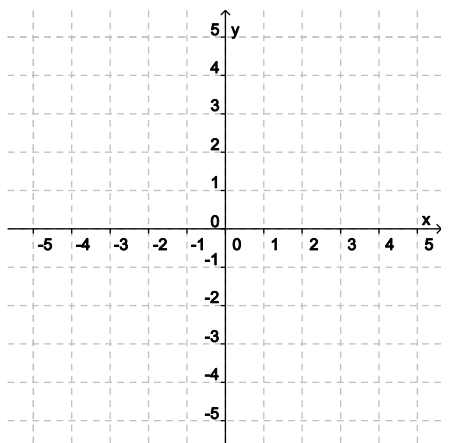
12. Graph  $f(x) = \begin{cases} 2x + 1 & \text{if } -1 \leq x < 1 \\ 2 & \text{if } x = 1 \\ -4x + 7 & \text{if } x > 1 \end{cases}$



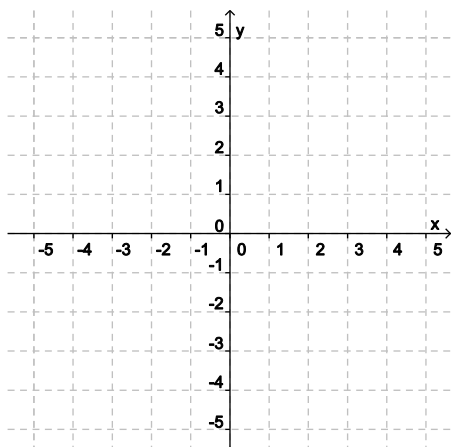
$$13. \text{ Graph } f(x) = \begin{cases} -3 & \text{if } -2 < x \leq 0 \\ -x + 4 & \text{if } 0 < x < 2 \\ \sqrt{x-2} + 1 & \text{if } x \geq 2 \end{cases}$$



$$14. \text{ Graph } f(x) = \begin{cases} |x + 2| & \text{if } x \leq -1 \\ 3x & \text{if } -1 < x \leq 0 \\ 2 - x^2 & \text{if } x > 0 \end{cases}$$



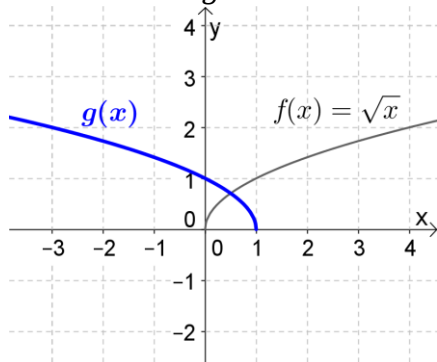
$$15. \text{ Graph } f(x) = \begin{cases} \frac{2}{x} + 1 & \text{if } x < 0 \\ 0 & \text{if } x = 0 \\ \frac{2}{3}x - 3 & \text{if } x > 0 \end{cases}$$



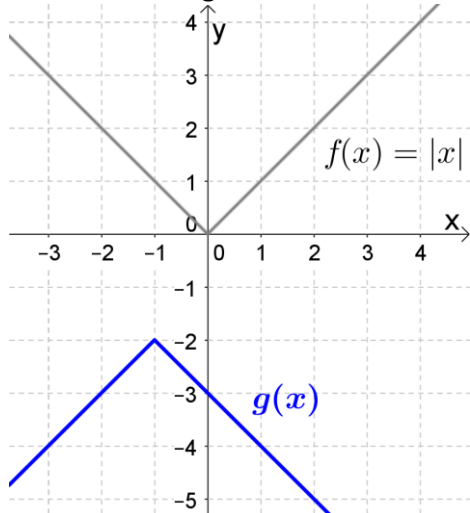
16. Determine whether  $f(x) = |x| + x^3$  is even, odd, or neither. Be sure to show how you got your answer.

17. Determine whether  $f(x) = 4x^7 - 6x^5$  is even, odd, or neither. Be sure to show how you got your answer.

18. Given that  $g$  is a transformation of  $f$  (see graphs below), find a formula for the function  $g$ .



19. Given that  $g$  is a transformation of  $f$  (see graphs below), find a formula for the function  $g$ .



Optional exercises from the Sullivan book if you'd like more practice:  
 2.3 (p.78) #37-47 odd  
 2.4 (p.90) #31-39 odd (part c only)  
 2.5 (p.102) #7-25 odd, 39-45 odd, 51-59 odd