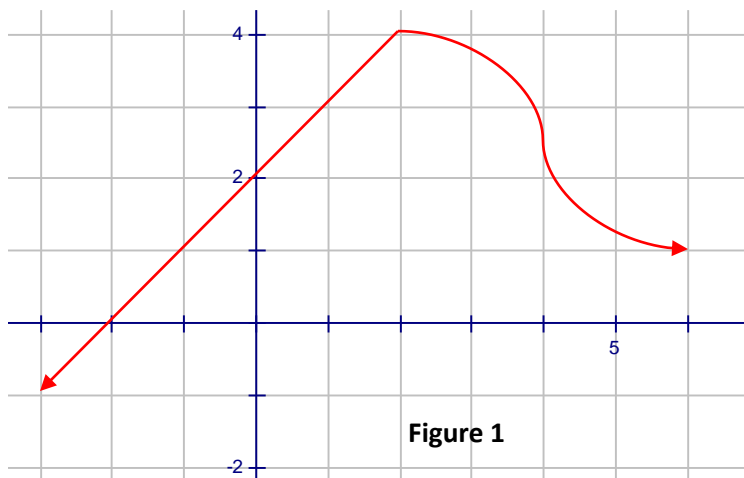


Chapter 4 Practice Test

#1-3: Use Figure 1.



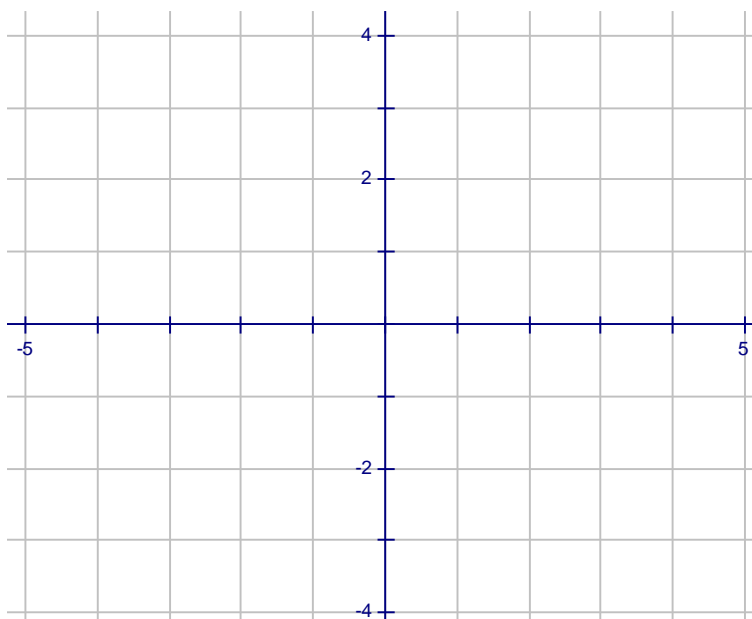
1. Does the graph represent a function?
2. Find the domain of graph.
3. Find the range of the graph.

#4-6: Use the function $f(x) = 2|x - 3| - 4$

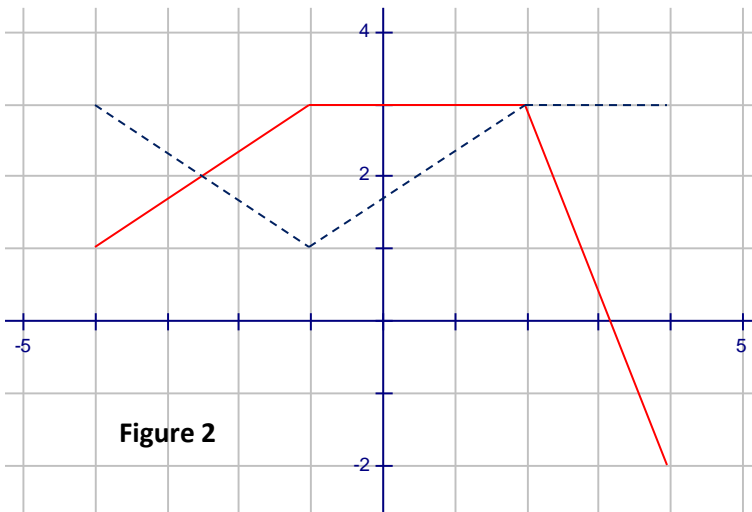
4. Find the domain of the function.
5. Find the range of the function.
6. Determine the zeros for the function (if any).

#7-8: Use the function $g(x) = \begin{cases} -x & \text{when } x \leq 0 \\ x^2 & \text{when } x > 0 \end{cases}$

7. Graph $g(x)$ on the grid.
8. Find the range of $g(x)$.



#9-12: Use Figure 2.



9. $f(-1) + g(-1) = ?$

10. $f(2) \cdot g(2) = ?$

11. What values of x is $f(x) - g(x)$ positive?

12. What values of x is $(x) - g(x) = 0$?

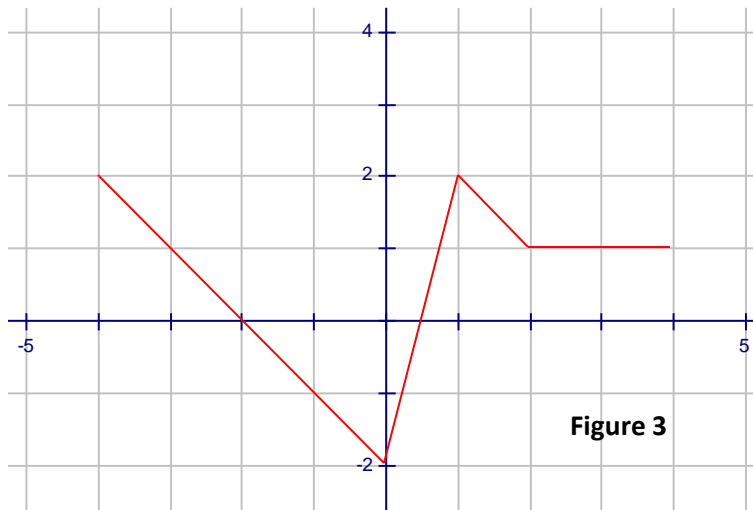
#13-15: Use $f(x) = x^2, g(x) = 2x + 1, h(x) = \frac{x}{2}$.

13. Evaluate $f(g(h(6)))$.

14. Evaluate $g(h(f(-2)))$.

15. Express the function $k(x) = x^2 + \frac{1}{2}$ as a composite of the functions $f(x), g(x),$ and $h(x)$.

#16-18: Use Figure 3.



16. Sketch the graph of $y = -f(x)$ in blue ink.

17. Sketch the graph of $y = |f(x)|$ in black ink.

18. Sketch the graph of $y = f(-x)$ in pencil.

#19-23: Use the equation $|x| + |y| = 4$.

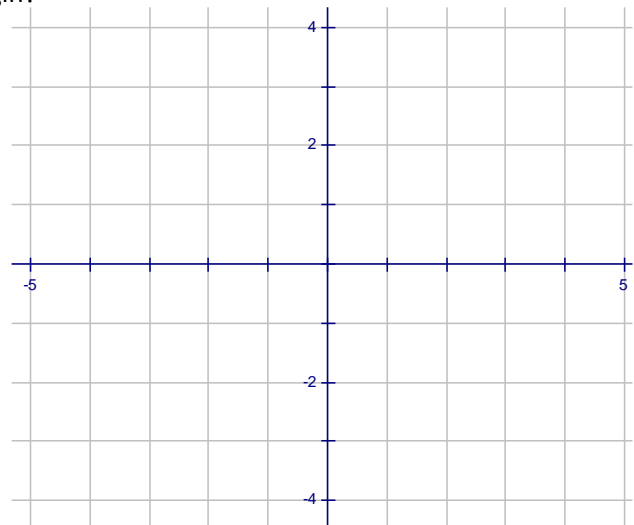
19. Does the equation have symmetry with respect to the x-axis?

20. Does the equation have symmetry with respect to the y-axis?

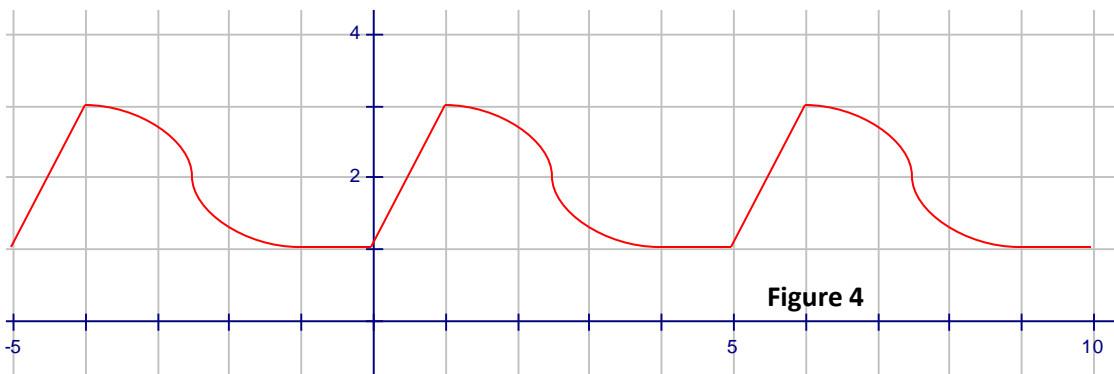
21. Does the equation have symmetry with respect to the line $y = x$?

22. Does the equation have symmetry with respect to the origin?

23. Sketch the graph of the equation.



#24-26: Use Figure 4.

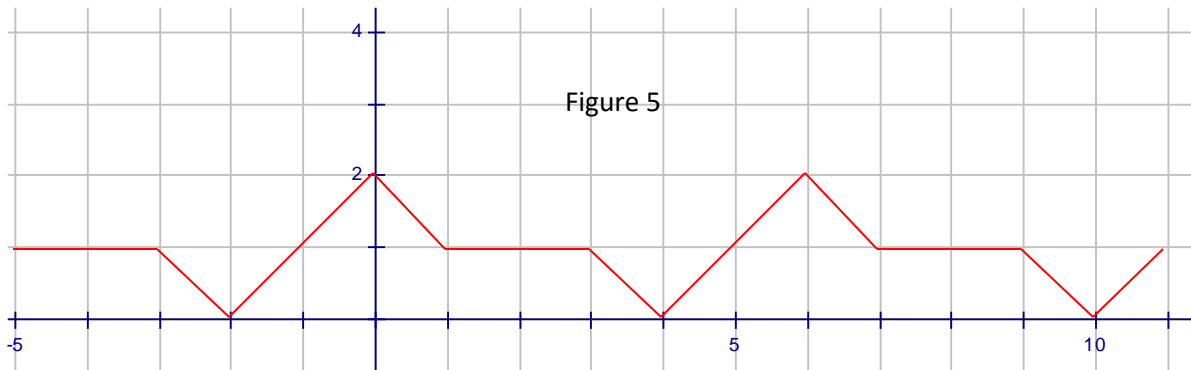


24. Find the period of the periodic function.

25. Calculate the amplitude of the periodic function.

26. Evaluate $f(101)$.

#27-29: Use Figure 5.

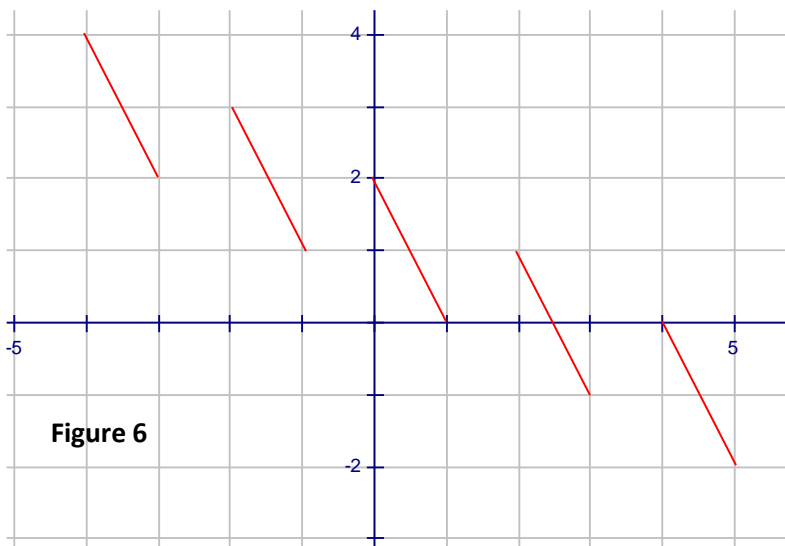


27. Sketch the graph of $y = 2f(x)$ in blue ink.

28. Sketch the graph of $y = f(-0.5x)$ in black ink.

29. Sketch the graph of $y = f(x) + 1$ in pencil.

#30-31: Use figure 6.



30. Is the function periodic?

31. Is the function a one-to-one function?

#32-33: Answer the questions.

32. Show $f(x) = 5x + 2$ and $g(x) = \frac{x-2}{5}$ are inverse functions.

33. If $h(x) = x^2 - 3$ when $x \geq 0$, then find a rule for $f^{-1}(x)$ if it exists.