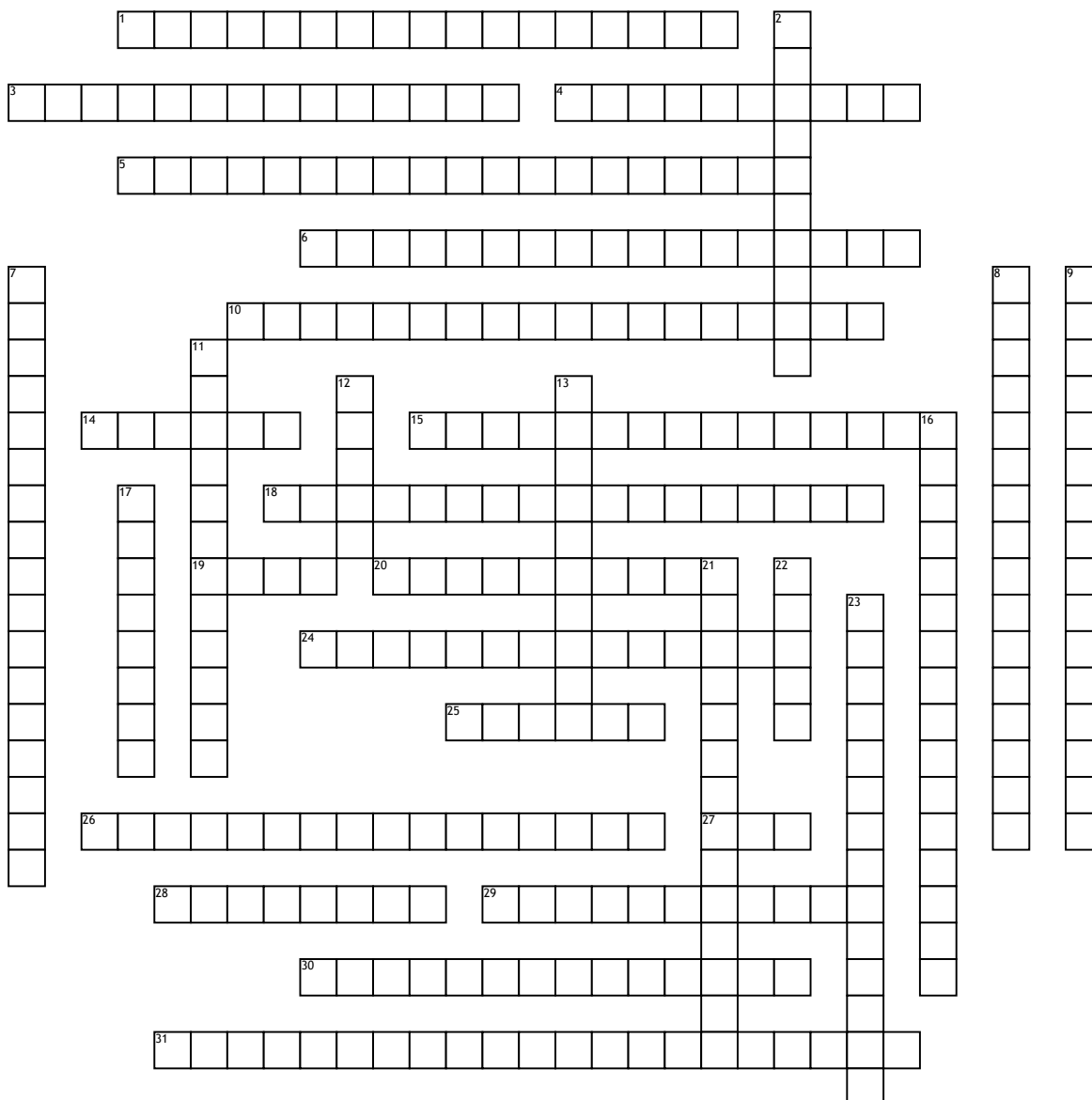# Chapter 3 Vocabulary

Across

1. A group of functions with similar characteristics

3. A function whose graph is a nonvertical line

4. An absolute value function written in the form $f(x) = a \mid x - h \mid + k$, where $a \neq 0$

5. The variable that represents the input values of a function

6. A function that does not have a constant rate of change and whose graph is not a line

10. A linear equation written in the form $y = mx + b$

14. The set of all possible input values

15. A transformation that causes the graph of a function to stretch away from the x-axis when all the y-coordinates are multiplies by a factor a, where a >1

18. The variable that represents the output of a function

19. The change in y between any two points on a line

20. The y-coordinate of a point where the graph crosses the y-axis

24. A set of input values that consists of only certain numbers in an interval

25. The point where a graph changes direction

26. Another name for y denoted as f(x) and read as "the value of f at x" or "f of x"

27. The change in x between any two points on a line

28. A pairing of inputs with outputs

29. A transformation that shifts a graph horizontally and/or vertically but does not change the size, shape, or orientation of the graph

30. A transformation that causes the graph of a function to shrink toward the x-axis when all the y-coordinates are multiplied by a factor a, where 0<a<1

31. A function that contains an absolute value expression

Down

2. A transformation that flips a graph over a line called the line of reflection

7. A transformation that causes the graph of a function to stretch away from the y-axis when all of the x-coordinates are multiplied by a factor a, where 0 < a < 1

8. A linear equation written in the form $y = 0x + b$ or $y = b$

9. A set of input values that consists of all numbers in an interval

11. A linear equation written in the form Ax + By = C, where A, V, and C are real numbers and A and B are not both zero

12. The rate of change between any two points on a line

13. The x-coordinate of a point where the graph crosses the x-axis

16. A transformation that causes the graph of a function to shrink toward the y-axis when all the x-coordinates are multiplied b a factor a, where a>1

17. A relation that pairs each input with exactly one output

21. A change in the size, shape, position, or orientation of a graph

22. The set of all possible output values

23. The most basic function in a family of functions