

Practice 11-7

Quadratic and Other Nonlinear Functions

Write a quadratic function rule for the data in each table.

1.

x	0	1	2	3	4
$f(x)$	3	4	7	12	19

2.

x	-2	-1	0	1	2
$f(x)$	-8	-2	0	-2	-8

3.

x	-1	0	1	2	3
$f(x)$	4	0	4	16	36

4.

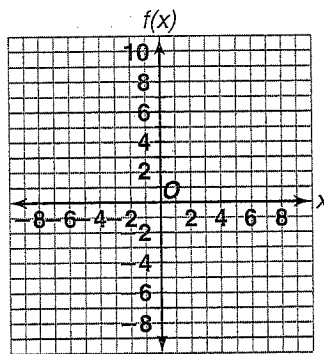
x	-10	-5	0	5	10
$f(x)$	95	20	-5	20	95

Complete the table for each function. Then graph the function.

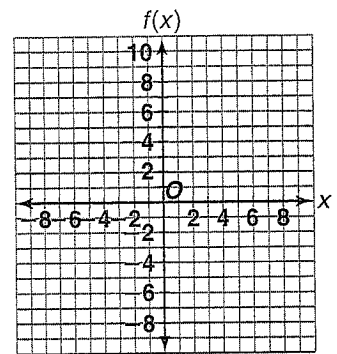
5. $f(x) = x^2 + 1$

6. $f(x) = 4 - x^2$

x	$x^2 + 1 = f(x)$
-3	
-2	
-1	
0	
1	
2	
3	



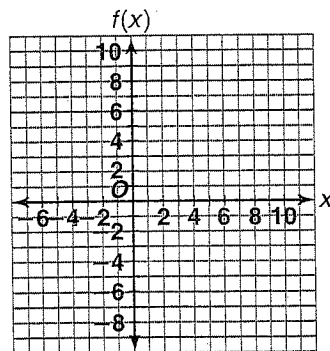
x	$4 - x^2 = f(x)$
-3	
-2	
-1	
0	
1	
2	
3	



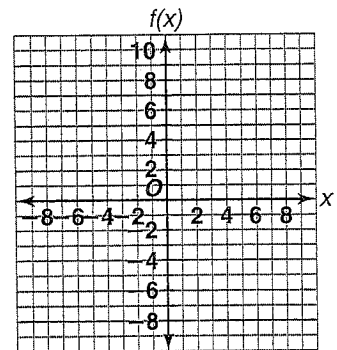
7. $f(x) = \frac{20}{x}$

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

x	$f(x)$
2	
4	
5	
10	



x	$f(x)$
-1	
0	
1	
2	
3	



Does the point (2, 2) lie on the graph of each function?

9. $f(x) = 2x - 2$

10. $f(x) = \left(\frac{1}{2}\right)^x$

11. $f(x) = x^2 - x$

12. $f(x) = \frac{4}{x}$

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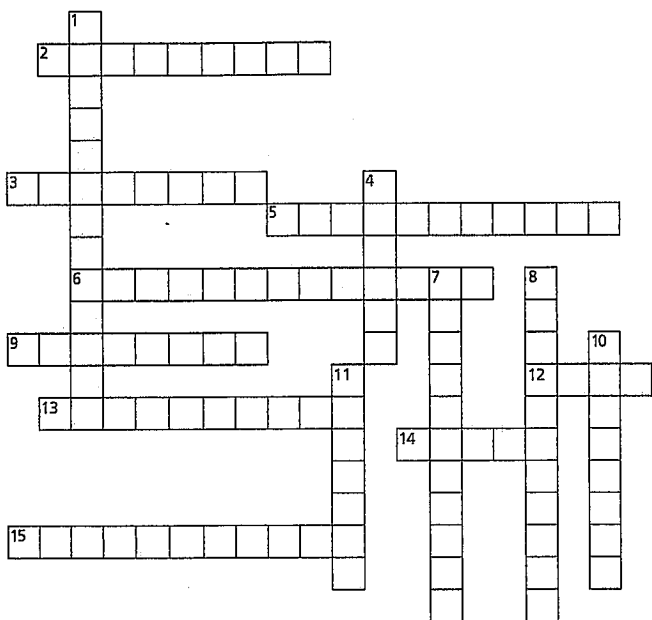
11F: Vocabulary Review Puzzle For use with the Chapter Review

Study Skill Read problems carefully. Pay special attention to units when working with measurements.

Complete the crossword puzzle below. For help, use the Glossary in your textbook.

Here are the words you will use to complete this crossword puzzle:

- | | | | | |
|-------------|---------------|-------------|-------------|----------|
| geometric | circumference | equilateral | right | scalene |
| combination | permutation | arithmetic | coefficient | mean |
| parabola | perpendicular | function | linear | solution |



Across

2. sequence in which each term is found by multiplying the previous term by a fixed number
3. relationship that assigns exactly one output value to each input value
5. triangle with three congruent sides
6. distance around a circle
9. value that makes an equation true
12. sum of the values in a data set divided by the number of items in the data set
13. sequence in which each term is found by adding a fixed number to the previous term
14. angle measuring exactly 90°
15. arrangement of items in which the order of the items is not considered

Down

1. two lines that intersect and form a right angle
4. type of function whose points lie in a line
7. number that is multiplied by a variable
8. arrangement of objects in a particular order
10. shape of the graph of a quadratic function
11. triangle with no congruent sides