

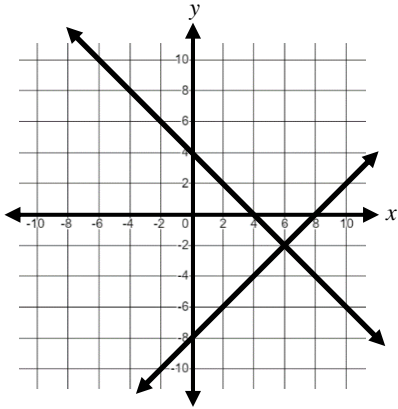


Name _____ Date _____

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Questions 1-3: Solve systems of equations.

1. $y = -x + 4$ and $y = x - 8$



Find the x -coordinate of the solution: _____

2. $6x - y = 12$ and $y = 4x$

Find the y -coordinate of the solution: _____

3. $5x + y = 14$ and $3x - y = 2$

Find the x -coordinate of the solution: _____



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(Continued)

Questions 4-6: Factor quadratic expressions to reveal the zeros of a function.

4. The area model below represents the expression $x^2 + 6x + 8$.

What are the two factors of the expression?

Length

Width	$+x^2$	$+x$	$+x$	$+x$	$+x$
	$+x$	$+1$	$+1$	$+1$	$+1$
	$+x$	$+1$	$+1$	$+1$	$+1$

Factors: _____ and _____

5. Factor the expression.

$$x^2 + 3x - 10$$

Factors: _____ and _____

6. Find the zeros of the function.

$$f(x) = x^2 + 9x + 14$$

Zeros: _____ and _____

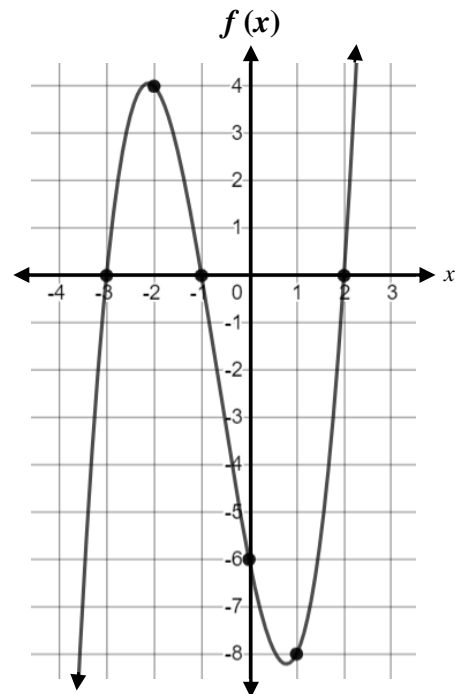


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Questions 7-9: Evaluate the function.

7. Use the graph to find the value of $f(0)$.



Circle your answer:

- 8 -7 -6 -5 -4 -3 -2
-1 0 1 2 3 4

8. For the function $g(x) = x + 4$,
find the value of $g(-3)$.

Answer: _____

9. For the function $h(x) = x^2 + 1$,
find the value of $h(3)$.

Answer: _____



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(Continued)

Questions 10-12: Determine if a function is linear or non-linear.

- 10.** Given the function of $f(x)$ provided in the table, circle the answer choice that makes the statement true.

x	0	1	2	3	5
$f(x)$	-2	0	2	4	8

“The function represented in the table is _____.”

- non-linear because the values of x and $f(x)$ always change at a constant rate
- non-linear because the values of x and $f(x)$ do not always change at a constant rate
- linear because the values of x and $f(x)$ always change at a constant rate
- linear because the values of x and $f(x)$ do not always change at a constant rate

- 11.** Given the function of $g(x)$ provided in the table, circle the answer choice that makes the statement true.

x	0	1	2	3	5
$g(x)$	-2	0	2	4	6

“The function represented in the table is _____.”

- non-linear because the values of x and $g(x)$ always change at a constant rate
- non-linear because the values of x and $g(x)$ do not always change at a constant rate
- linear because the values of x and $g(x)$ always change at a constant rate
- linear because the values of x and $g(x)$ do not always change at a constant rate

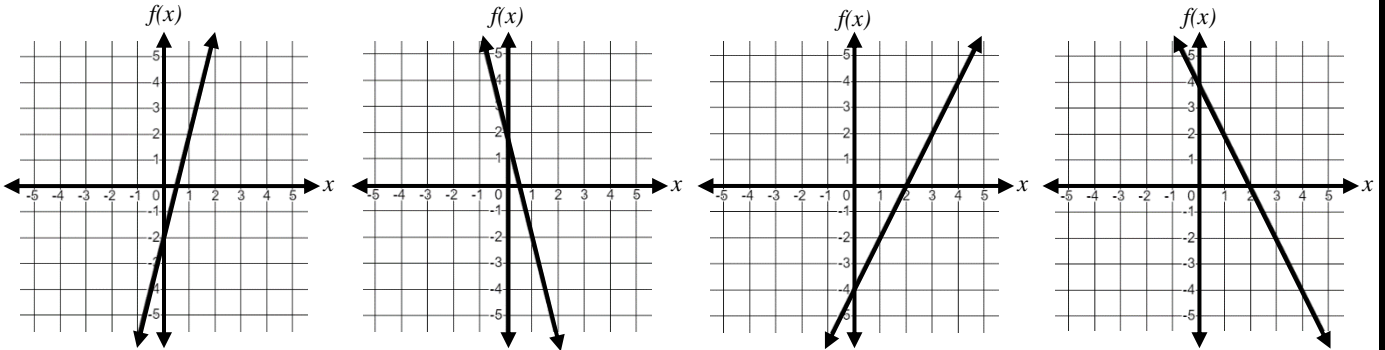
- 12.** Circle all of the linear functions.

$$f(x) = x \quad g(x) = x^2 + 4 \quad h(x) = 3x + 4 \quad k(x) = 3^x + 4$$

Questions 13-15: Identify graphs of linear and non-linear functions.

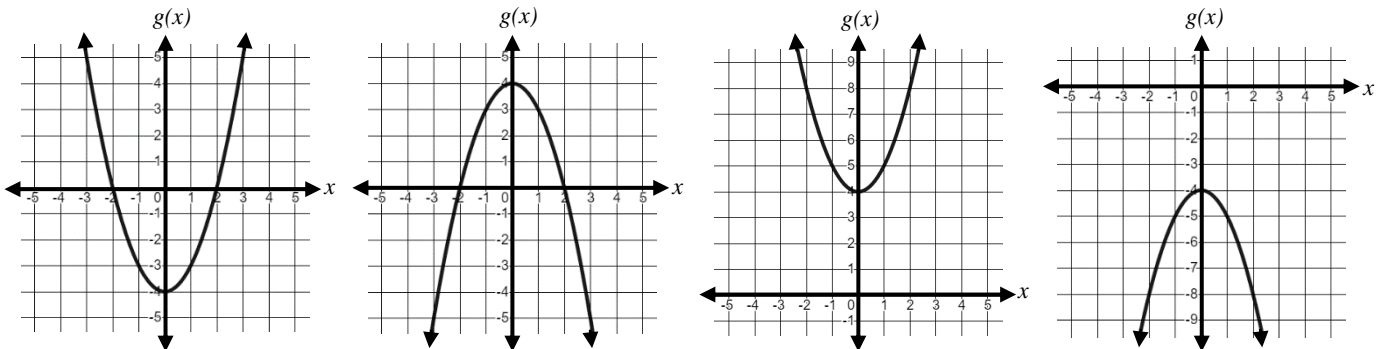
13. The function $f(x) = 4x - 2$ could be represented by which graph?

Circle your answer:



14. The function $g(x) = -x^2 + 4$ could be represented by which graph?

Circle your answer:



15. The function $h(x) = (x - 3)^2 - 5$ could be represented by which graph?

Circle your answer:

