

6.1 Inverse Functions

Name _____

If $\{-2, -1, 0, 1, 2\}$ is the domain of each function, find the range.

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

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

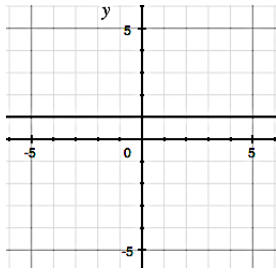
3. $f(x) = 2x^2 + x$

4. $f(x) = 3x^2 - 2x$

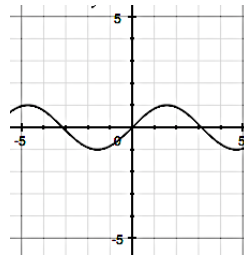
Answers: **1.** $\{1, -1, 5\}$; **3.** $\{6, 1, 0, 3, 10\}$

Determine if the following graphs are of relations, functions, or one-to-one functions.

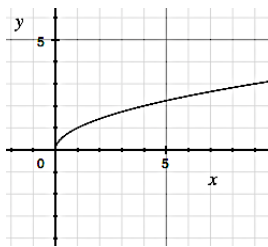
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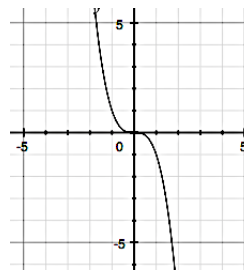
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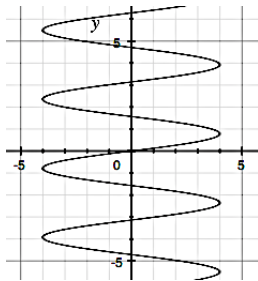
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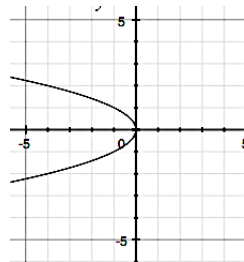
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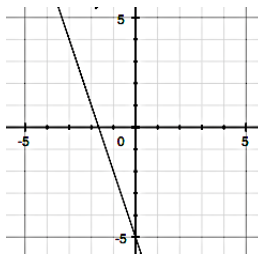
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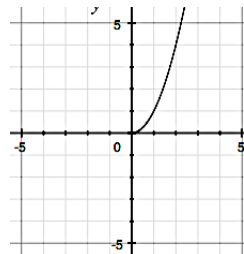
10.



11.



12.



Answers: 5. function; 7. one-to-one function; 9. relation; 11. one-to-one function

Determine the inverse of the following functions.

13. $f(x) = 2x + 7$

14. $f(x) = 3x - 1$

15. $f(x) = \frac{1}{2x-3}$

16. $f(x) = \frac{1}{5x+2}$

Answers: 13. $f^{-1}(x) = \frac{x-7}{2}$; 15. $f^{-1}(x) = \frac{3x+1}{2x}$

Determine the inverse of the following functions.

17. $f(x) = \frac{x}{2x-5}$

18. $f(x) = \frac{x+2}{x-4}$

Answer: 17. $f^{-1}(x) = \frac{5x}{2x-1}$