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MAT 231  
Homework Assignment 6

**Chapter 1.6 -LIBRARY OF PARENT FUNCTIONS**

**Directions:** Provide complete responses to each question. Make sure to show all your work.

1. Identify the following function.

$$f(x) = 8$$

- a. Constant function
- b. Absolute value function
- c. Square root function
- d. Squaring function
- e. Identity function

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2. Select the linear function such that it has the indicated function values.

$$f(1) = 8, f(0) = 7$$

a.  $f(x) = 4x + 7$

b.  $f(x) = x + 7$

c.  $f(x) = 7x - 3$

d.  $f(x) = x - 7$

e.  $f(x) = -7x - 7$

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3. Select the linear function such that it has the indicated function values.

$$f(8) = 16, f(-3) = -17$$

a.  $f(x) = 3x - 8$

b.  $f(x) = -3x + 3$

c.  $f(x) = 3x + 8$

d.  $f(x) = 8x + 3$

e.  $f(x) = -3x - 3$

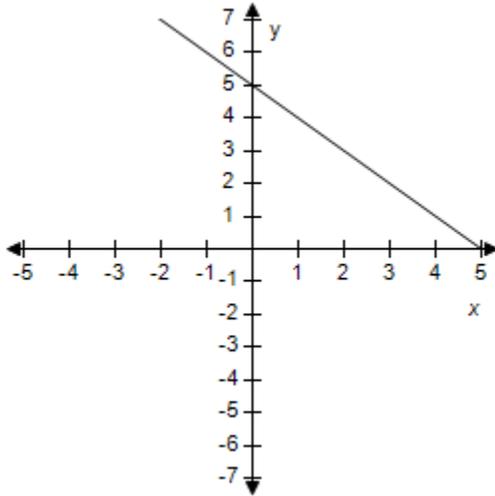
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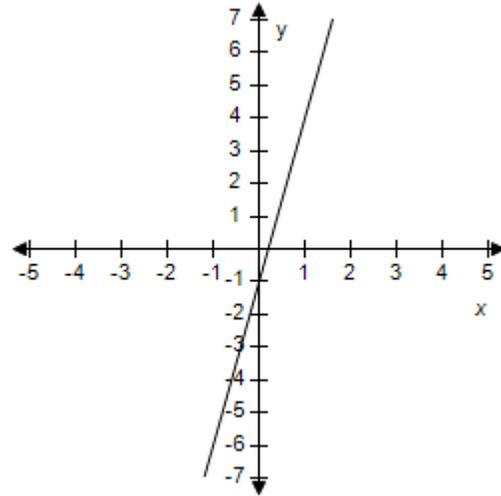
4. Select the correct graph of the given function.

$$f(x) = -x + 5$$

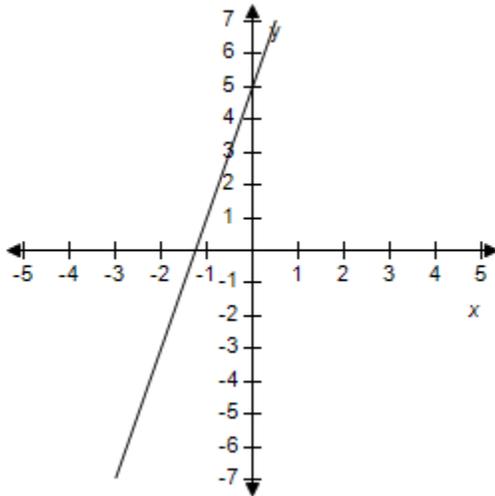
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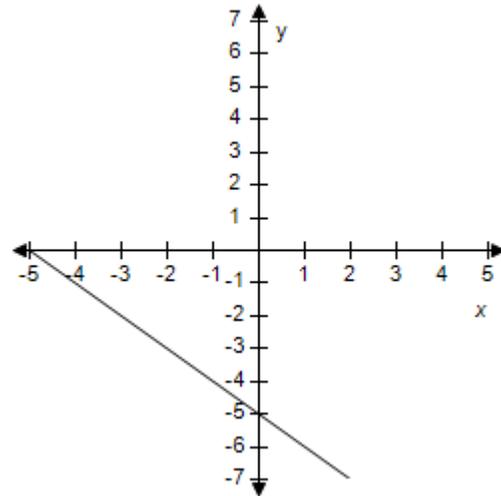
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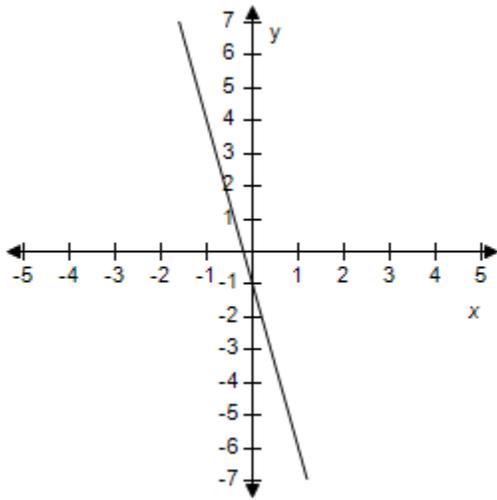
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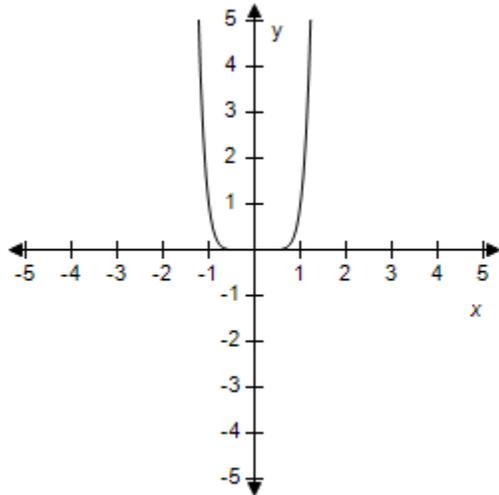
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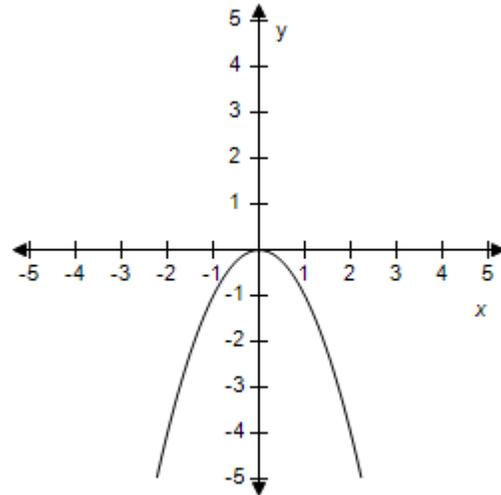
5. Select the correct graph of the given function.

$$f(x) = -3x^3$$

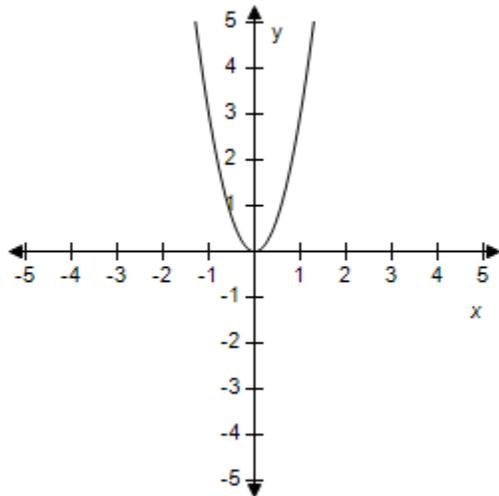
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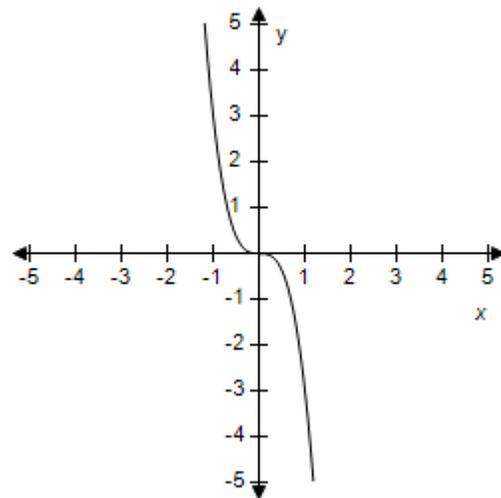
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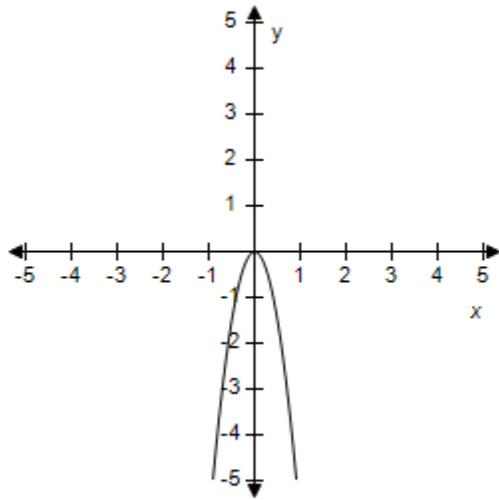
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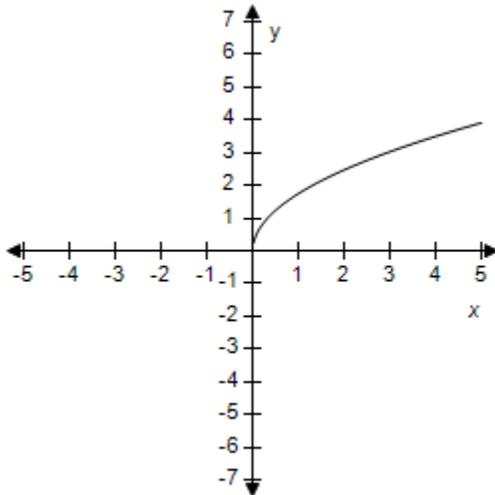
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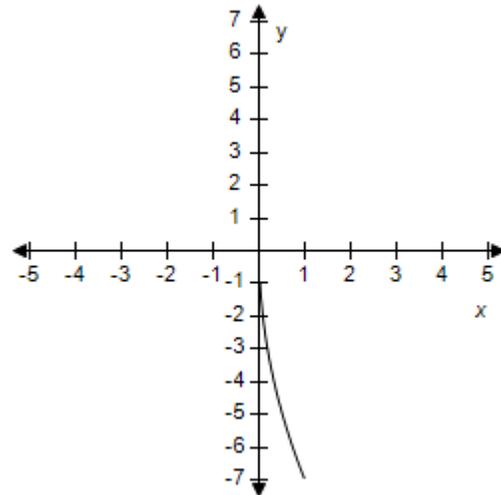
6. Select the correct graph for the given function.

$$f(x) = 7\sqrt{x}$$

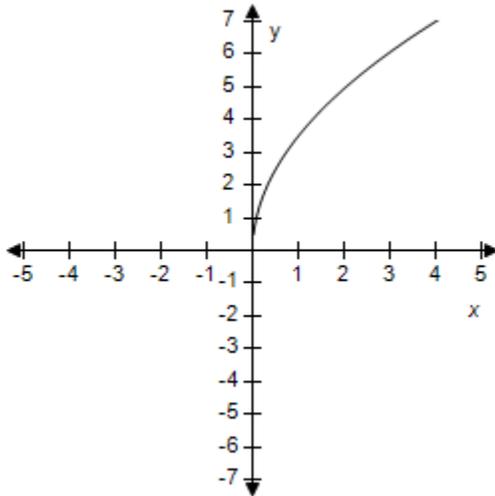
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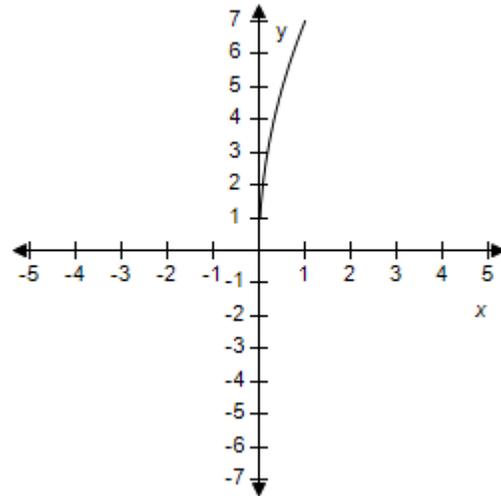
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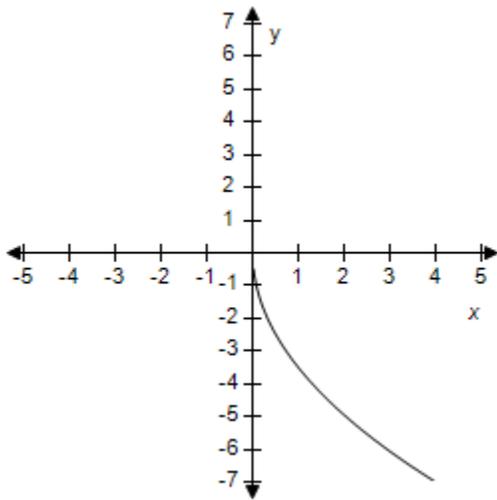
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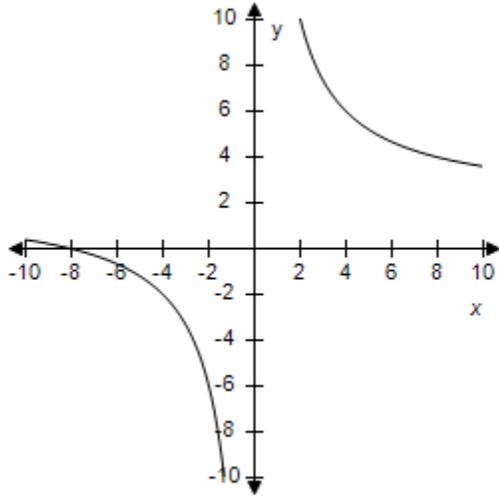
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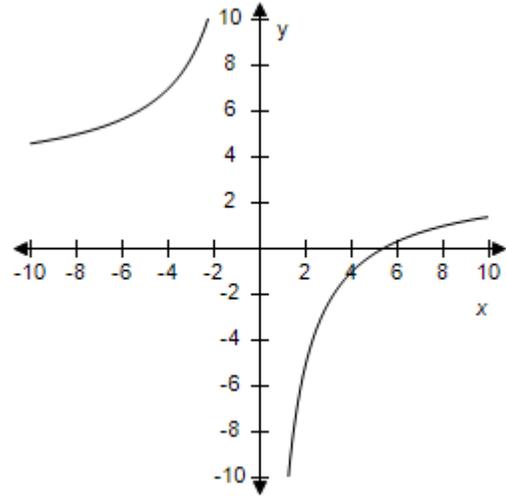
7. Select the correct graph of the given function.

$$f(x) = -\frac{8}{x}$$

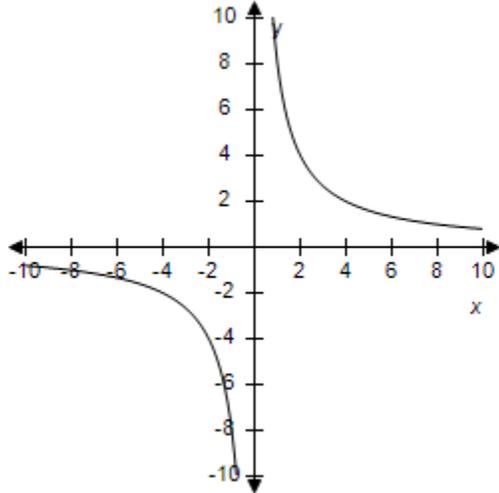
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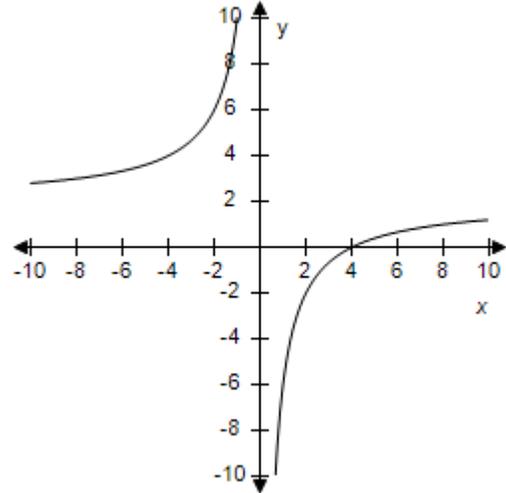
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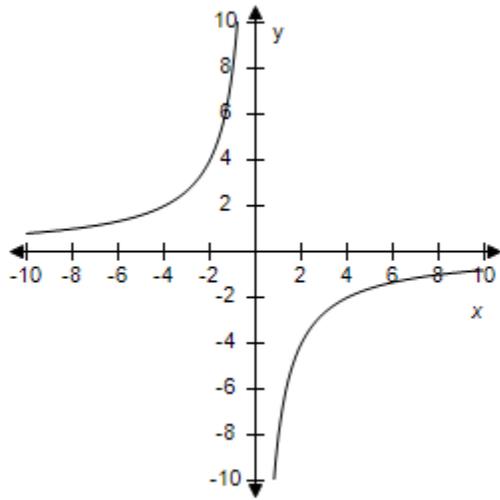
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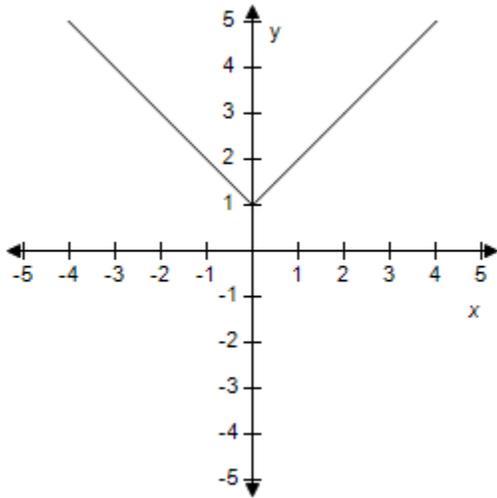
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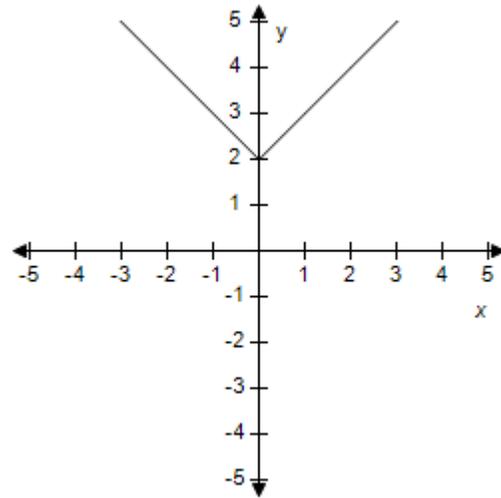
8. Select the correct graph of the given function.

$$f(x) = |x| - 2$$

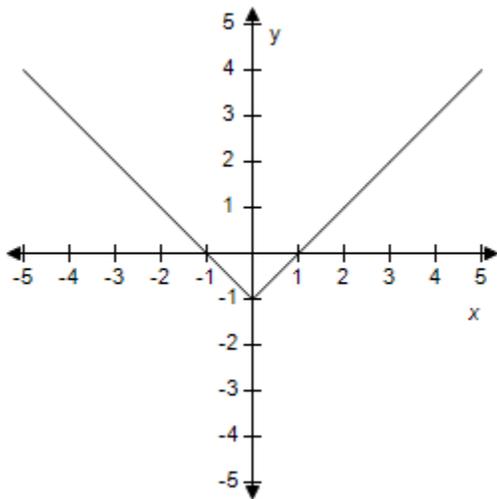
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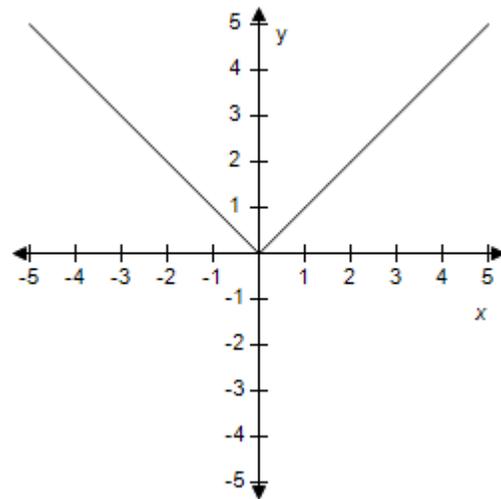
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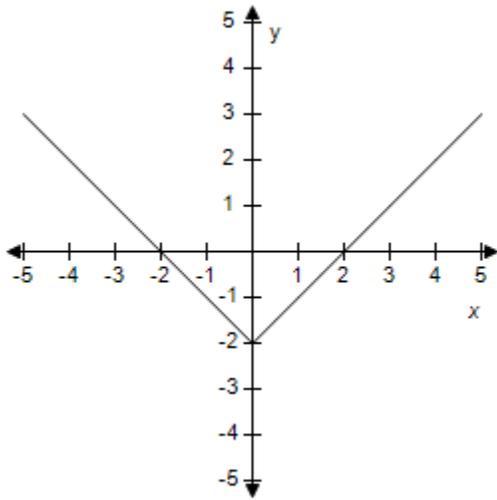
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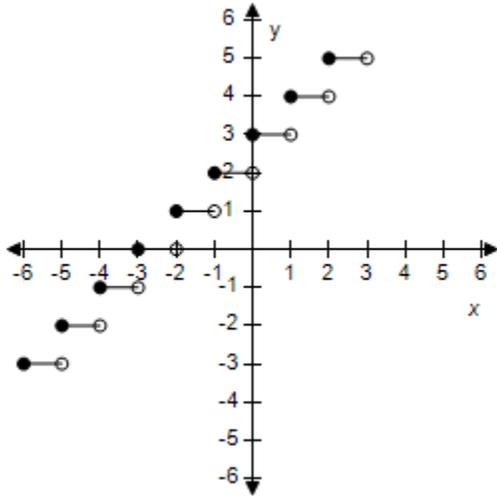


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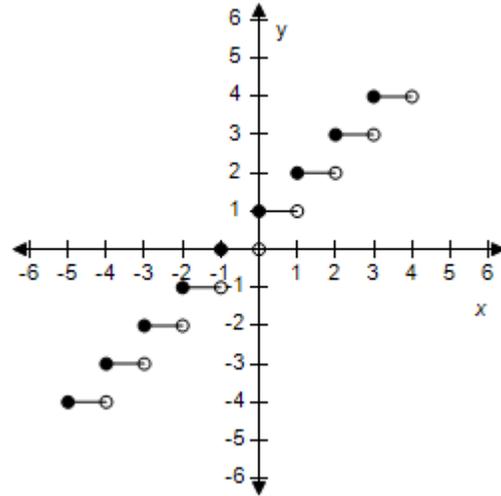
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9. Select the graph of the function:  $f(x) = \lceil x + 3 \rceil$ .

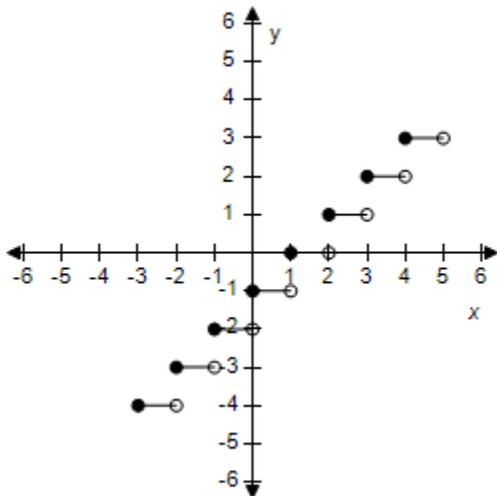
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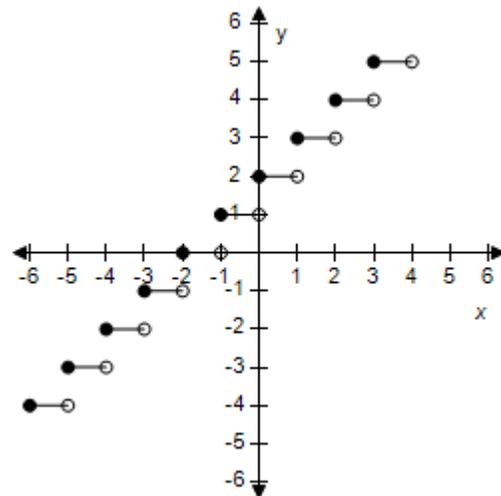
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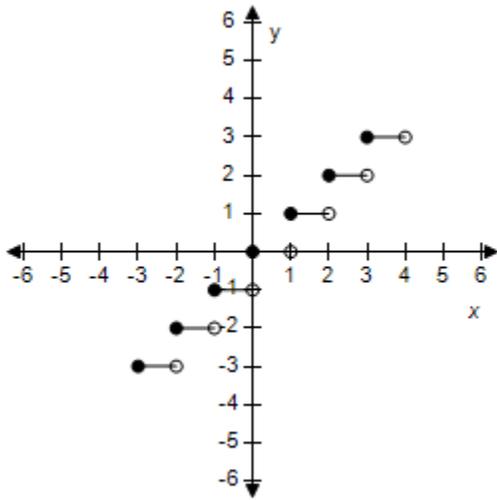
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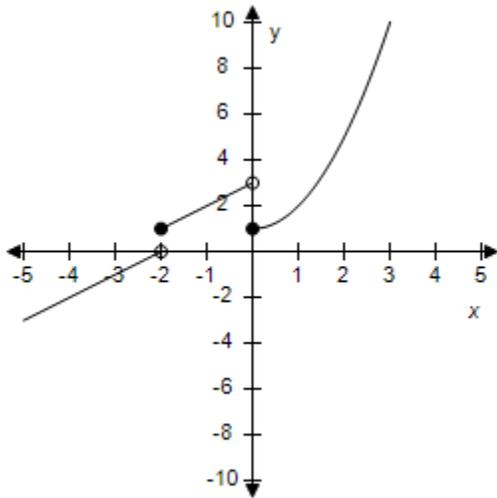
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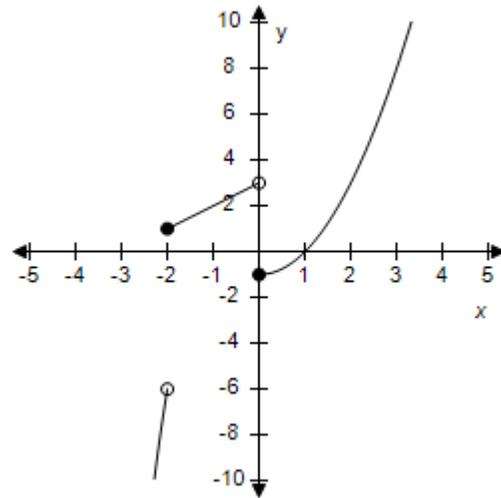
10. Select the graph of the function.

$$f(x) = \begin{cases} 2 - x^2, & x < -2 \\ 3 + x, & -2 \leq x < 0 \\ x^2 + 1, & x \geq 0 \end{cases}$$

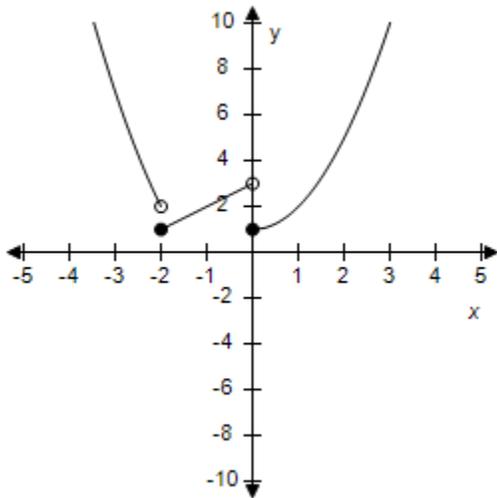
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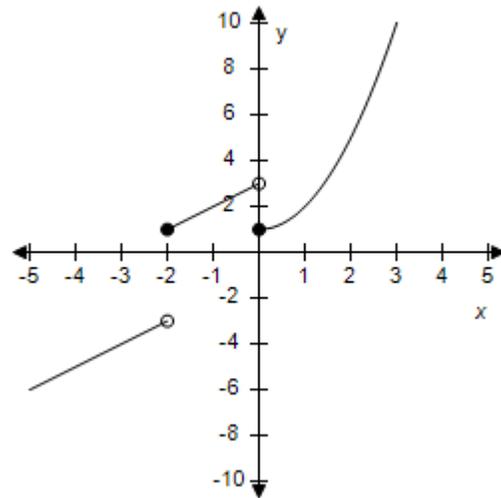
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