

# Chapter 7 Warm-Up

## Section 7.1 Warm-Up

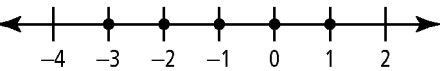
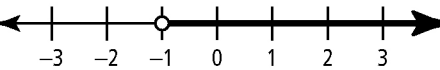
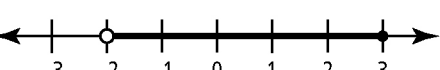
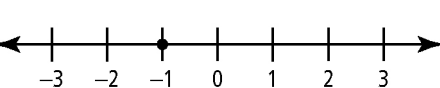
1. What is the numerical value of each of the following?

- a) opposite of 7
- b) opposite of  $-3$
- c) difference of 6 and  $-3$
- d) number of whole numbers between 3 and  $-2$
- e) value of  $4 - (-1)$
- f) sum of  $-6$  and 1

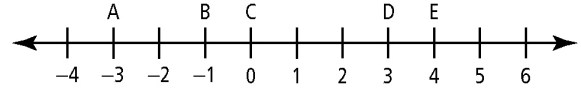
2. Sketch a number line to show the solution for each statement. Assume that all values are integers.

- a)  $x - 4 = 1$
- b)  $-2 < x \leq 3$
- c)  $x$  is a negative integer and  $x \geq -4$
- d)  $\{x \mid x < 5, x \in \mathbb{I}\}$

3. Determine an equation or an inequality that describes the solution shown on each number line.

- a) 
- b) 
- c) 
- d) 

4. Use the number line to help answer the questions.



- a) What number is midway between A and D?
  - b) What is the distance between D and B?
  - c) Which two labelled points are 5 units apart?
  - d) What rational value is halfway between A and E?
5. Determine the total change in temperature for each day.
- a) from  $27^{\circ}\text{C}$  to  $41^{\circ}\text{C}$
  - b) from  $-27^{\circ}\text{C}$  to  $18^{\circ}\text{C}$
  - c) from  $-35^{\circ}\text{C}$  to  $-9^{\circ}\text{C}$
  - d) from  $14^{\circ}\text{C}$  to  $-13^{\circ}\text{C}$

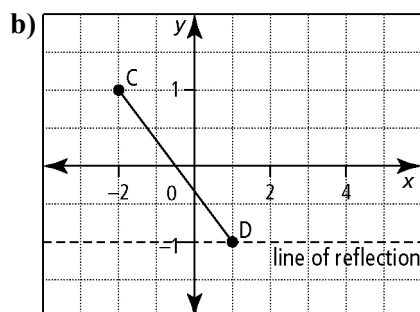
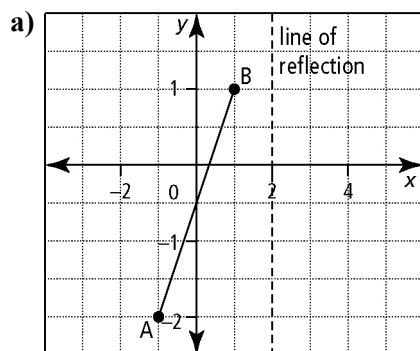


## Section 7.2 Warm-Up

1. What is the value of each expression?

- a)  $-7 - (-1)$
- b)  $4 - 9$
- c)  $|-6| + |3| - 4$
- d)  $3(|-9| - |-3|)$
- e)  $(|-5| - |-8|)^2$

2. Draw the reflection of each line segment using the given line of reflection.



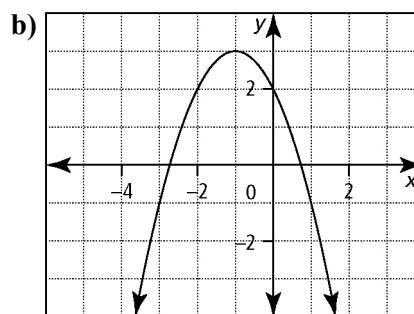
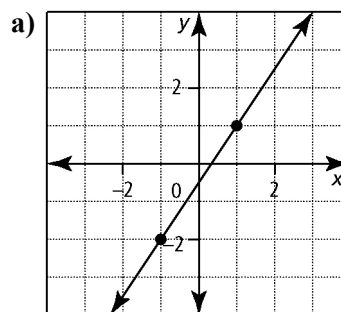
3. Each graph in #2 represents a function. Use the graphs to answer the following questions.

- a) What can you say with certainty about the zero(s) of the function represented by AB?
- b) What is the domain and range for CD?
- c) What is the equation of the reflection for CD?

4. Draw the graph of each function.

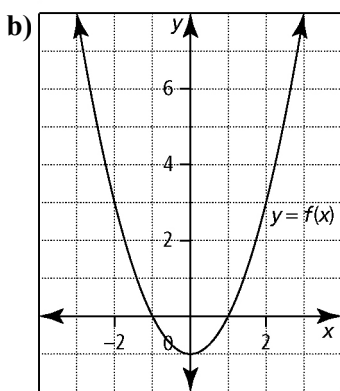
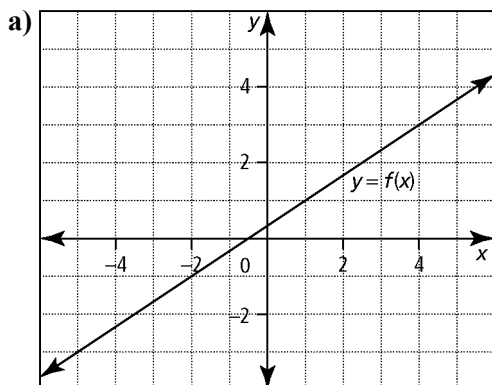
- a)  $y = 2x + 3$
- b)  $f(x) = x^2 - 4x - 5$
- c)  $y = (x - 1)^2 + 2$

5. Determine a function for the relationship shown on each graph.

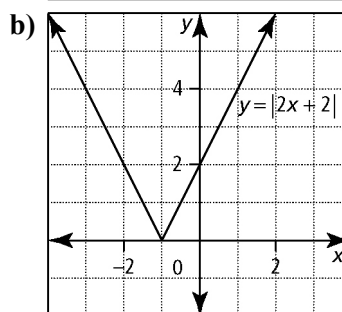
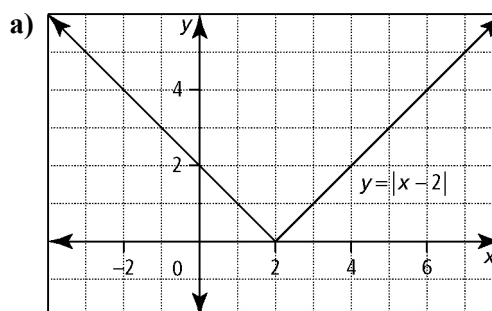


### Section 7.3 Warm-Up

- Sketch the graph of each function. State the intercepts, and the domain and range.
  - $y = |-3x - 1|$
  - $g(x) = |x| + 1$
  - $y = |x^2 - 5x + 6|$
- Use the graph of  $y = f(x)$  to sketch the graph of  $y = |f(x)|$ .



- Determine the root for each linear equation.
  - $y = 2x - 5$
  - $3x - y = 9$
  - $4x - 3y - 12 = 0$
- What are the root(s) for each quadratic equation?
  - $y = x^2 - 1$
  - $f(x) = x^2 + x - 6$
  - $y = 3x^2 - x - 2$
- Write the piecewise function that represents each graph.



### Section 7.4 Warm-Up

- What is the reciprocal of each expression?
  - $-3$
  - $\frac{1}{4}$
  - $2x$
  - $\frac{5x}{x-3}$
- What are the non-permissible values, if any, for each variable?
  - $3x^2$
  - $\frac{3}{x-2}$
  - $\frac{x}{x^2-1}$
  - $\frac{x+2}{x^2+3x+2}$
- Solve each equation. Verify the solutions.
  - $|3x - 2| = 7$
  - $|x + 1| = 3$
  - $2x + 1 = |x - 4|$
  - $|7x - 3| = 3 + x$
- Write a quadratic function that satisfies each set of conditions.
  - vertex at  $(-1, 2)$  and opens upward
  - zeros of  $-2$  and  $4$  and opens downward
  - axis of symmetry at  $x = 2$ ,  $y$ -intercept at  $(0, 4)$ , and opens upward
- Explain how you would determine non-permissible values for a rational expression.

