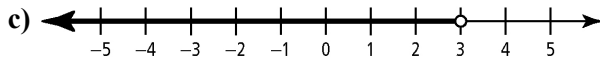
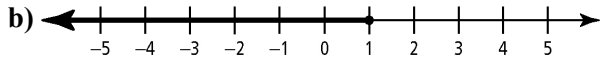
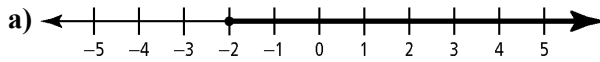


Chapter 9 Warm-Up

Section 9.1 Warm-Up

1. Express each number line in the form of an inequality.



2. Draw a number line showing the solution to each linear inequality.

a) $x > 4$ b) $x \leq -1$

3. Solve each equation.

a) $6m + 3 = 2m + 15$

b) $11x - 1 = 2x - 28$

c) $2 - 5w = 16 - 3w$

d) $6y - 3 = 5(2y - 3)$

4. For what value(s) of b is each expression

i) equal to 50?

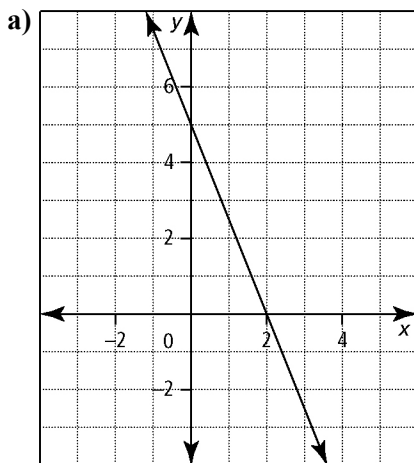
ii) less than 50?

iii) greater than 50?

a) $5(b - 10)$ b) $3b + 5$

c) $\frac{25b}{3}$ d) $-1.25b$

5. What is the value of the x -intercept and the y -intercept for each linear relation?



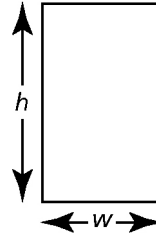
b) $y = 2x - 3$

c) $2x + 3y = 9$

6. Photographs can be classified into three shapes: portrait, square, and landscape. Let h represent the height of a photo and w represent the width.

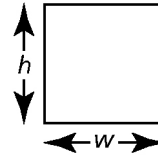
Portrait

h is greater than w .



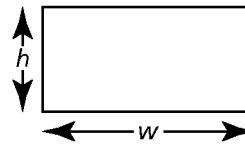
Square

h is equal to w .

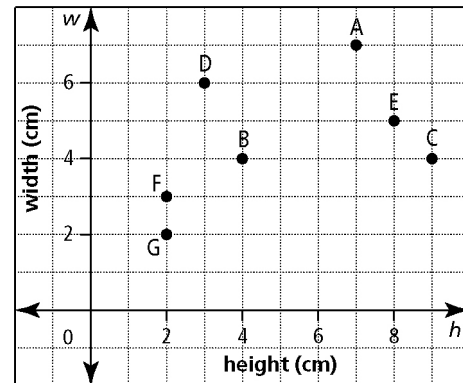


Landscape

h is less than w .



- a) Express each photo classification as either an equation or an inequality.
- b) Each point marked on the graph shown represents a photo. For each photo, A to G, identify whether its shape is portrait, square, or landscape.



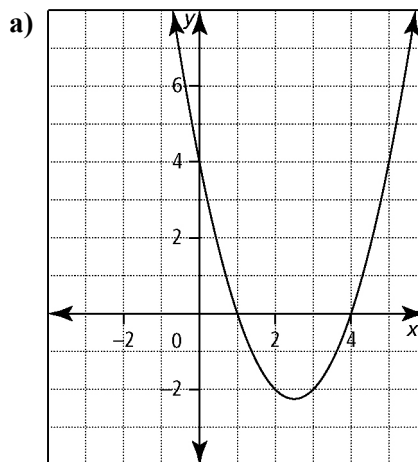
- c) Draw a line on the graph through the points that represent square photos. State how the points that represent portrait and landscape photos relate to this line.



Section 9.2 Warm-Up

- Explain how a straight line on a graph divides the Cartesian plane into three regions. Use an example.
- Draw a graph of your choice to show the solution set of each inequality.
 - $3(x - 5) + 2 \leq 2x - 9$
 - $y < 3x - 5$
 - $2x - 3y \leq 6$
- Determine if the given value of x is a solution for the inequality.
 - $x \geq \frac{5}{2}$, $x = 2$
 - $3x - 1 < x - 4$, $x = -2$
 - $4(x - 3) > -2(8 - 5x)$, $x = -12$
- Complete each ordered pair to satisfy the equation $y = x^2 + 1$.
 - $(-4, \square)$
 - $(2.7, \square)$
 - $(\square, 5)$
 - $(\square, 2.44)$
 - (\square, \square)

- Factor each quadratic expression.
 - $x^2 - 7x - 30$
 - $x^2 + 9x + 18$
 - $2x^2 - x - 6$
 - $3x^2 + 14x - 5$
- Determine the x -intercepts of each quadratic function.



- $f(x) = (x - 5)(x + 2)$
- $f(x) = x^2 - x - 56$
- $f(x) = 2x^2 + x - 1$

Section 9.3 Warm-Up

- Solve each quadratic equation by factoring.
 - $x^2 - 9 = 0$
 - $x^2 - 6x - 7 = 0$
 - $2x^2 + 13x + 15 = 0$
 - $3x^2 - 5x = -2$
- Use the quadratic formula to determine the roots of $y = 2x^2 + 3x - 1$.
- Draw the graph of each quadratic equation. From the graph, determine how many zeros the function has.
 - $y = (x + 1)^2 - 3$
 - $y = (x - 2)^2$
 - $y = x^2 - 4x + 5$
- Explain the relationship between the roots of a quadratic equation, the zeros of a quadratic function, and the x -intercepts for the graph of the function. Use examples to support your explanation.
- Solve each quadratic inequality.
 - $x^2 - 1 \leq 0$
 - $x^2 - 1 > 0$
 - $x^2 - 3x \leq 4$
- Draw a number line that shows the solution for each quadratic inequality.
 - $x^2 + x - 6 > 0$
 - $3x^2 + 11x - 4 \leq 0$

