

# Additional Practice

## Investigation 5

### The Shapes of Algebra

1. Match each inequality a–i with its graph.

a.  $x - 2y \geq 4$

b.  $y - 2x \geq 4$

c.  $2x + y \leq 4$

d.  $x + 2y \leq 4$

e.  $y \geq -2x$

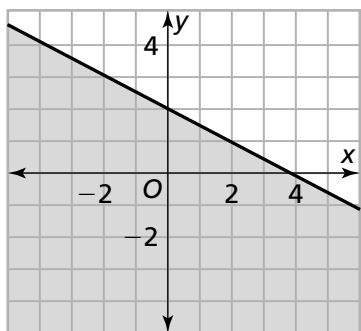
f.  $y \leq -2x$

g.  $x \geq -2$

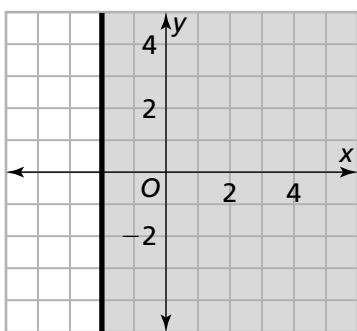
h.  $y \geq -2$

i.  $-2 < x$

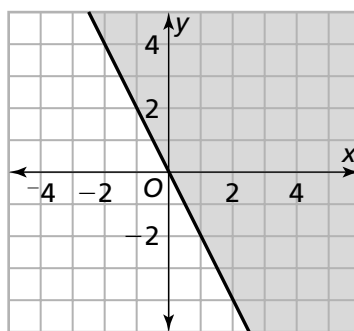
i.



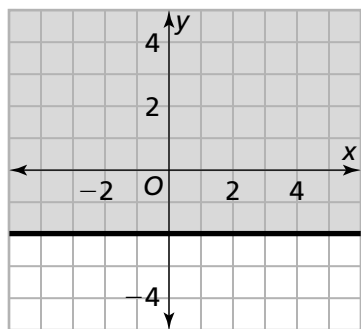
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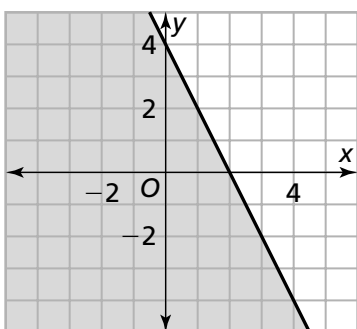
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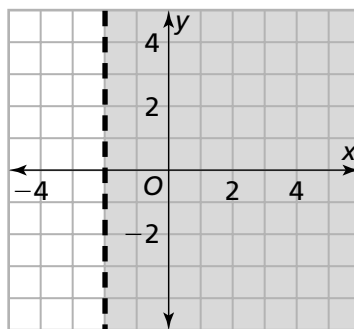
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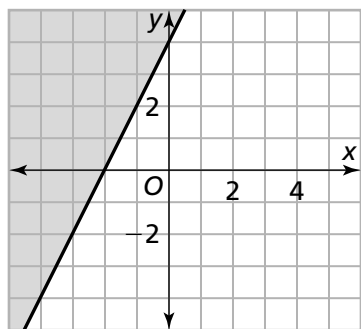
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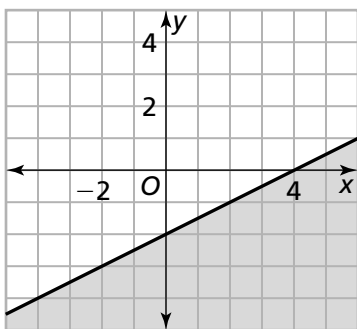
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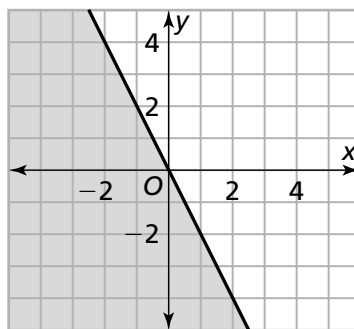
vii.



viii.



ix.



**Additional Practice** *(continued)***Investigation 5****The Shapes of Algebra**

2. For each of the inequalities in parts (a)–(c):
- Find three solutions  $(x, y)$  that satisfy the inequality.
  - Find three solutions  $(x, y)$  that do NOT satisfy the inequality.
  - Draw a graph illustrating the solutions of the inequality.
- a.  $x - 5y \geq 10$

b.  $5x - y \leq 10$

c.  $x - 5y < 10$

**Additional Practice** *(continued)***Investigation 5****The Shapes of Algebra**

3. For each of the inequalities in parts (a)–(d), draw a graph illustrating the solutions of the inequality.

a.  $x \geq 6 + 3y$

b.  $x \geq 6$

c.  $y < -5$

d.  $3x - 6y \geq 9$

e. What strategies did you use to draw the graphs in parts (a)–(d)?

**Additional Practice** *(continued)***Investigation 5****The Shapes of Algebra**

4. For each of the following systems of inequalities:
- Find three coordinate pairs that are solutions to the system.
  - Find three coordinate pairs that are not solutions to the system.
  - Graph the solutions to the system.
- a.  $2x + 3y \geq 6$   
 $x + 4y \leq 10$

b.  $3x - 5y \leq 0$   
 $x - y > -1$