Math 084 W2010 Worksheet 4.6 v01
Linear Inequalities Exercises
Dressler

Name_____

Determine if the ordered pair satisfies the inequality.

1) $x + y > -1$: $(1, -1)$

2) $x - y \le 5$: $(3, 2)$

3) $x - y \le -3$: $(-4, -4)$

4) $2x + 3y \le -3$: $(6, 8)$

5) $x + 2y > -6$: $(3, -1)$

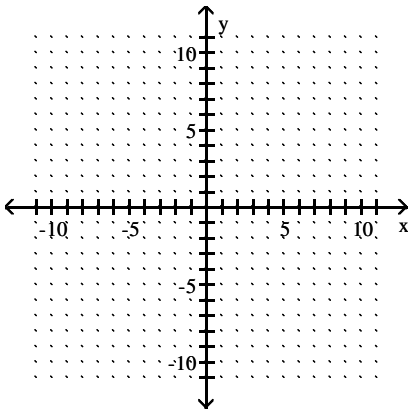
6) $x + 2y < -6$: $(3, -4)$

7) $y > -x - 1$: $(-5, 6)$

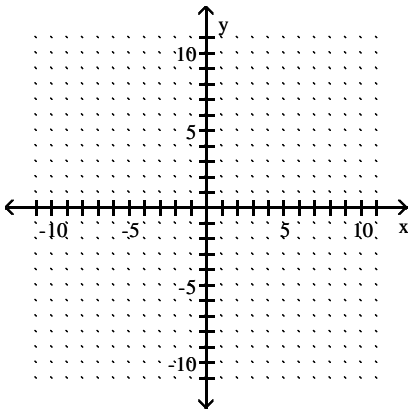
8) $x \le y + 2$: $(3, -2)$

Graph the inequality.

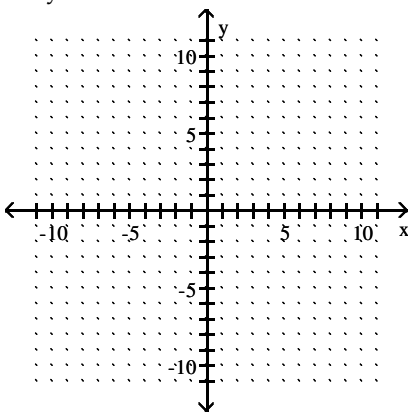
9) $x - y > -4$



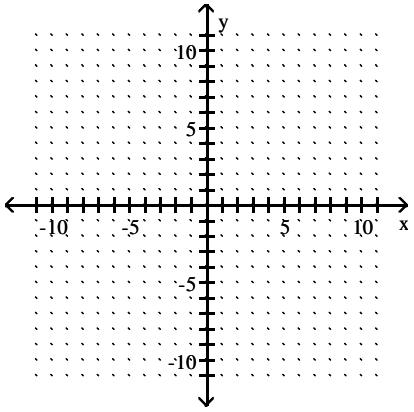
10) $x + y < -3$



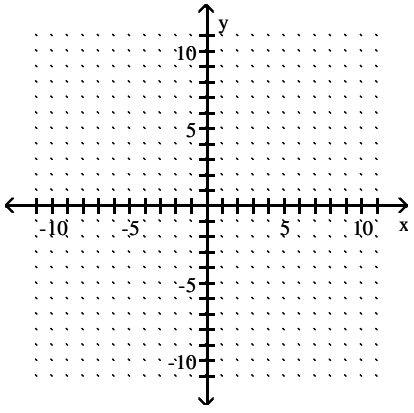
11) $x + y \leq 4$



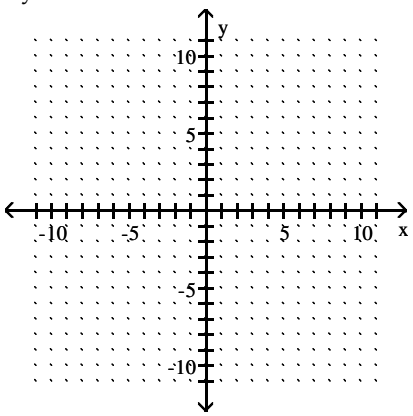
12) $2x + y \leq 6$



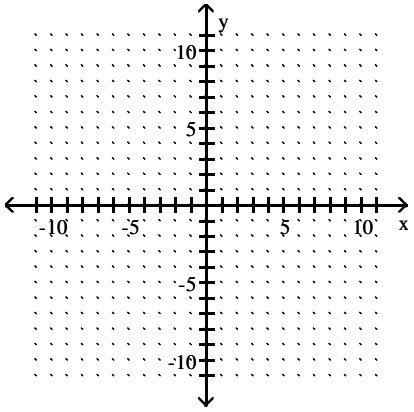
13) $x + 2y \geq 4$



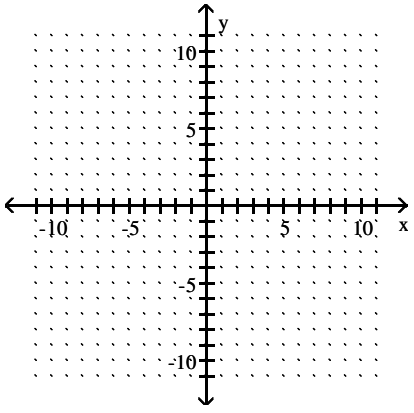
14) $-2x + y \leq 2$



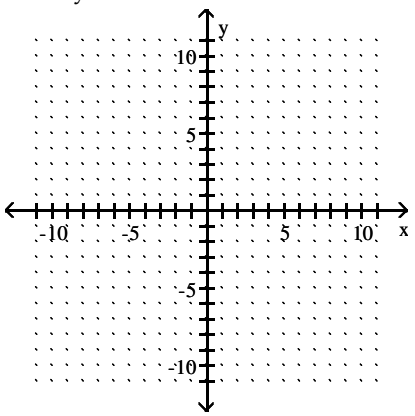
15) $2x + 4y \leq 8$



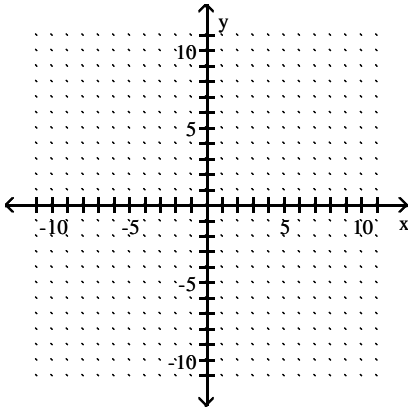
16) $-2x - 3y \leq 6$



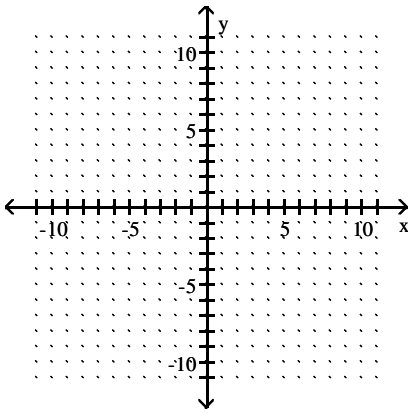
17) $2x + 3y \geq -6$



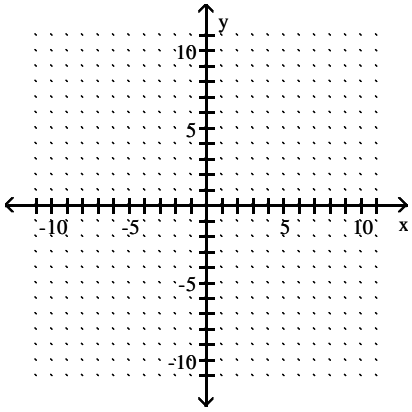
18) $y \geq 5x$



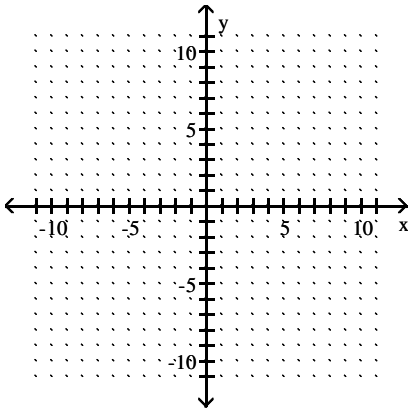
19) $y < -\frac{2}{5}x$



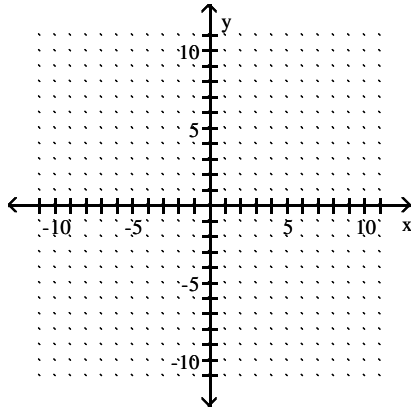
20) $y \leq -4x + 2$



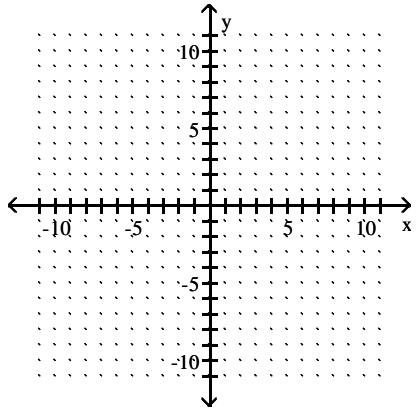
21) $y > -3x - 8$



22) $x > -1$

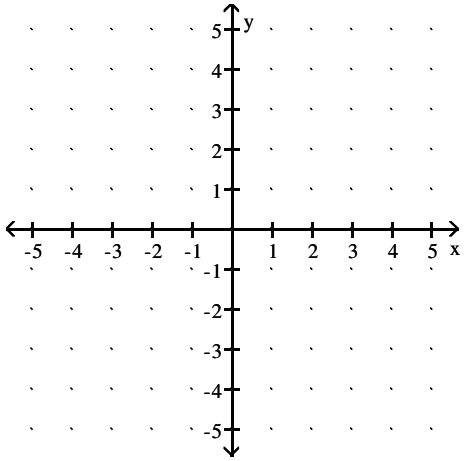


23) $y \leq -3$

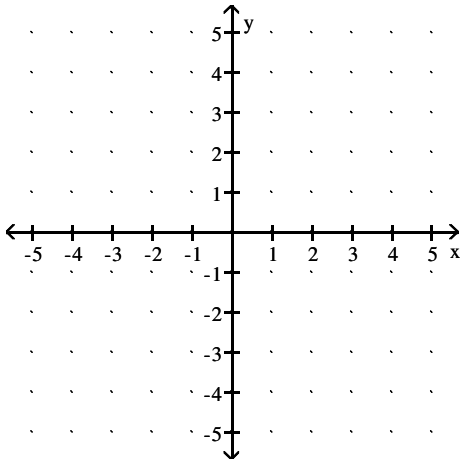


Graph the linear inequality described by the sentence.

24) The sum of the x–variable and the y–variable is at least 1.

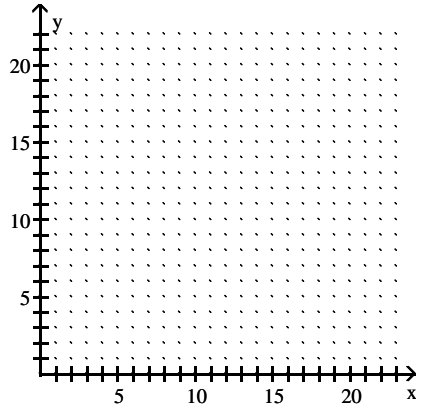


25) The sum of 2 times the x–variable and 3 times the y–variable is at most 6.

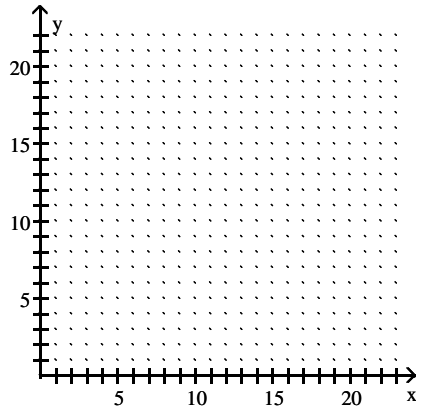


Solve.

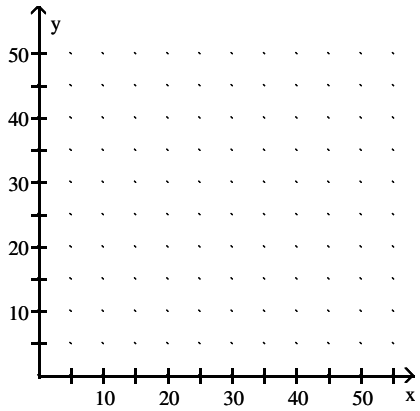
26) A furniture company manufactures chairs and tables. Each chair requires 2 labor–hours to manufacture. Each table requires 3 labor–hours to manufacture. The company has 18 labor–hours available per day. These data are summarized by the linear inequality $2x + 3y \leq 18$. Graph an inequality that describes when the labor–hours for making x chairs and y tables will not exceed the number of labor–hours the company has available.



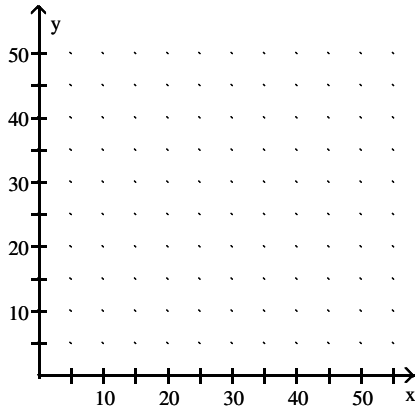
27) A man has $7.50 and wants to buy pretzels and soda from a vender. The pretzels cost $0.75 per bag and the soda cost $0.50 per cup. These data are summarized by the linear inequality $0.75x + 0.50y \leq 7.50$. Graph an inequality that describes when the cost of x bags of pretzels and y cups of soda does not exceed the amount of money the man has to spend.



28) A delivery company has two sizes of boxes to ship. Their small box has a volume of 6 cubic feet and their large box has a volume of 12 cubic feet. Each of the company's trucks can carry 132 cubic feet of cargo. These data are summarized by the linear inequality $6x + 12y \leq 132$.Graph an inequality that describes when the volumes of x small boxes and y large does not exceed the volume of a truck.

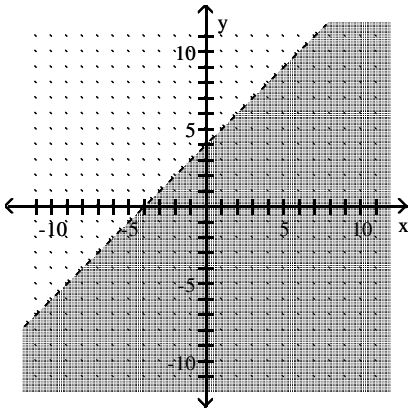


29) A woman works out by running and swimming. When she runs, she burns 8 calories per minute. When she swims, she burns 10 calories per minute. She wants to burn at least 400 calories in her workout. These data are summarized by the linear inequality $8x + 10y \geq 400$. Graph an inequality that describes when x minutes running and y minutes swimming will burn at least as many calories as the woman wants to burn.



Answer Key
Testname: 04.6V01

1) Yes
2) Yes
3) No
4) No
5) Yes
6) No
7) Yes
8) No
9)



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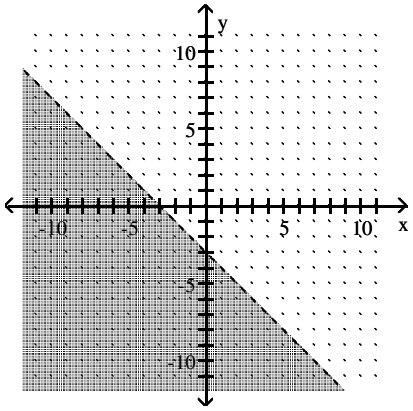

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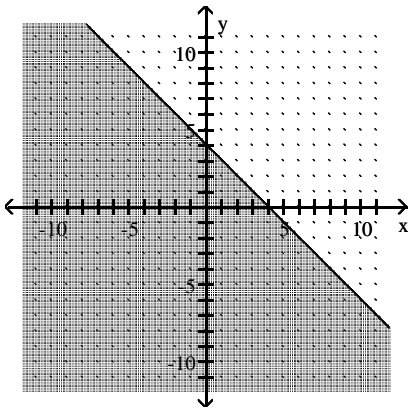

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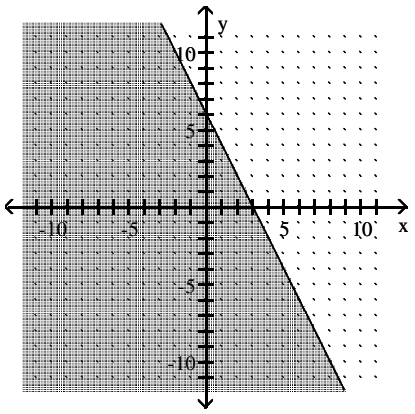

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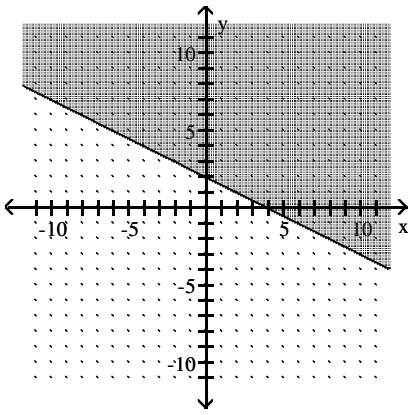

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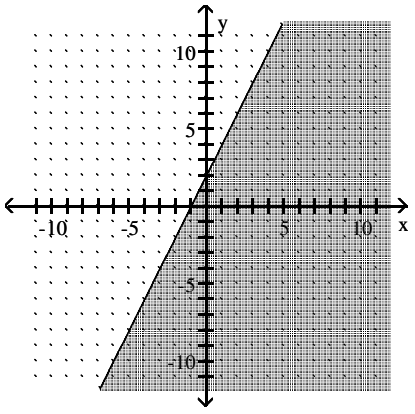

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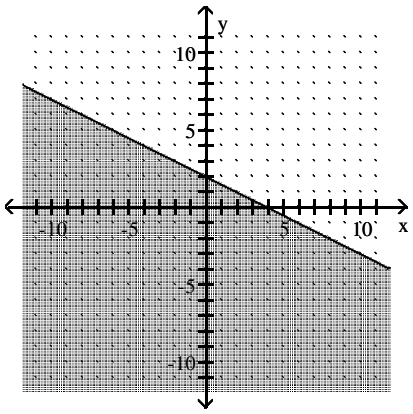

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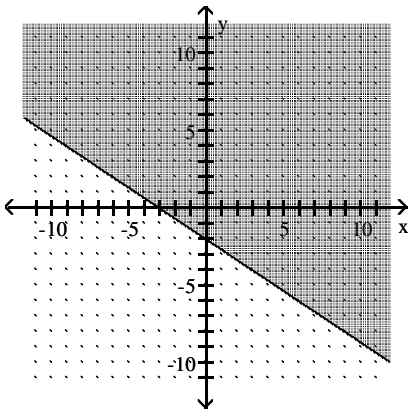

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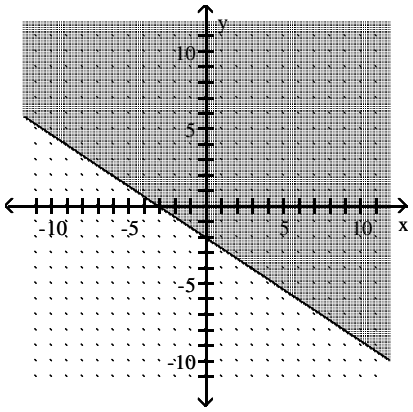

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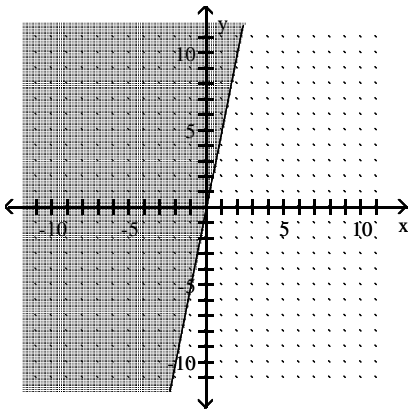

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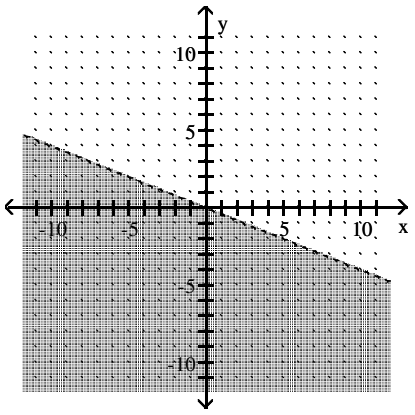

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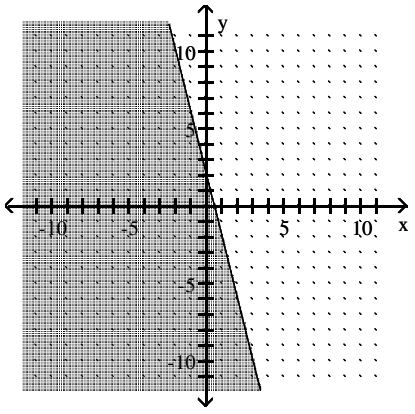

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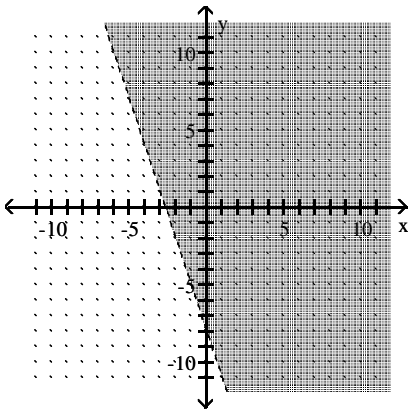

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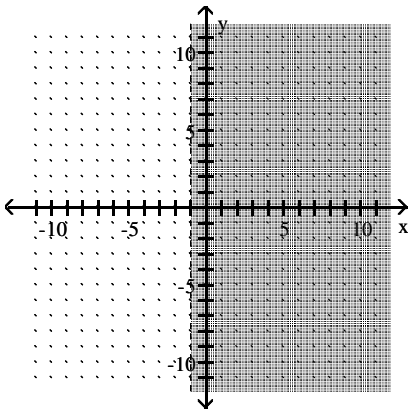

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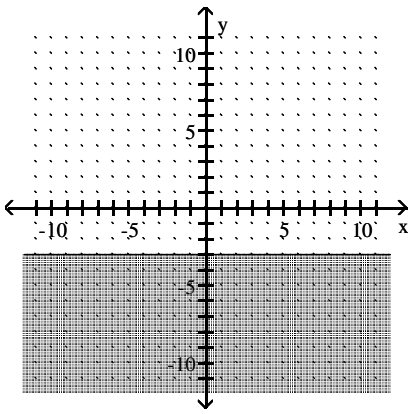

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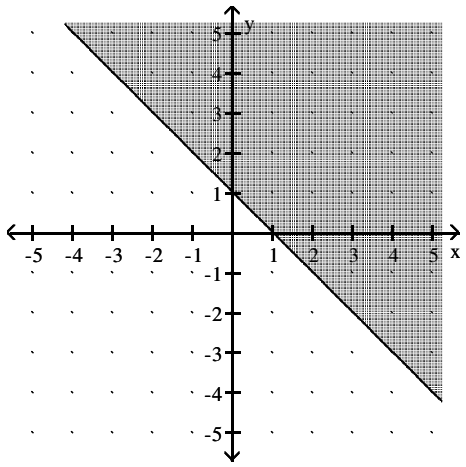
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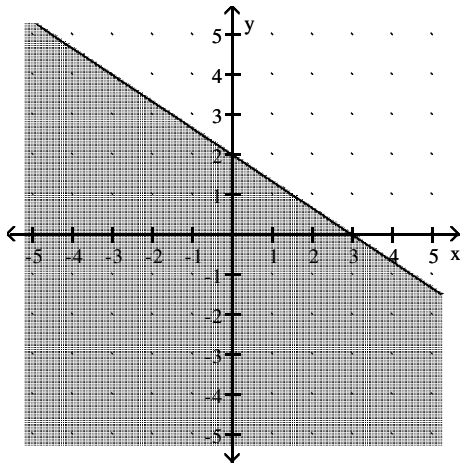
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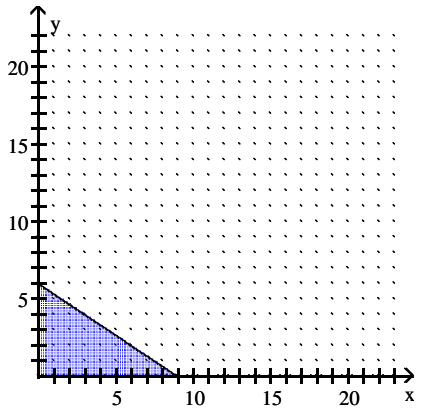
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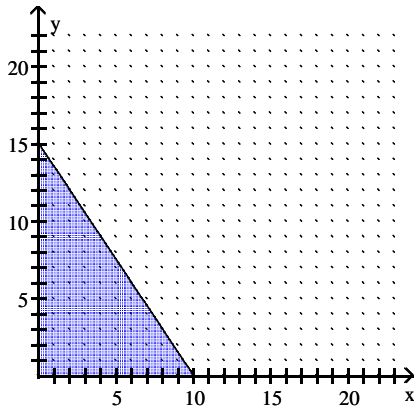
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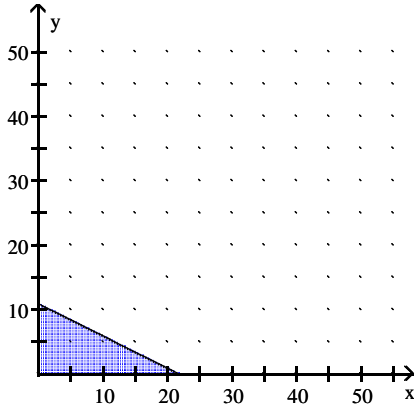
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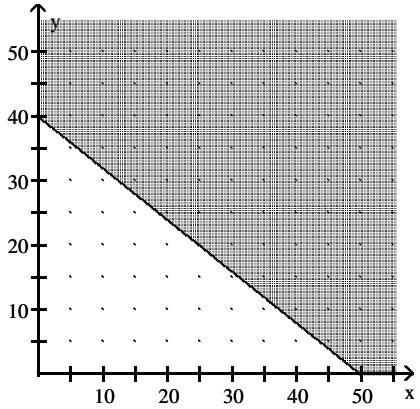
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