

Name _____

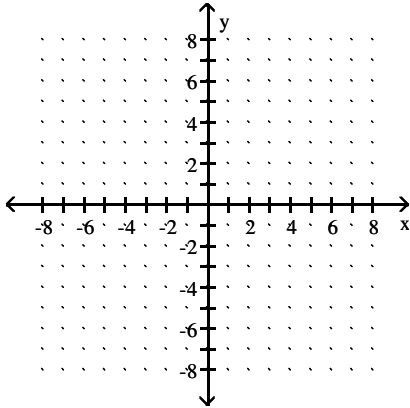
Solve the problem.

- 1) Yvette has up to \$7000 to invest and has chosen to put her money into telecommunications and pharmaceuticals. The telecommunications investment is to be no more than 4 times the pharmaceuticals investment. Write a system of inequalities to describe the situation. Let x = amount to be invested in telecommunications and y = amount to be invested in pharmaceuticals.
- 2) Yvette has up to \$1000 to invest and has chosen to put her money into telecommunications and pharmaceuticals. The telecommunications investment is to be no more than 5 times the pharmaceuticals investment. Write a system of inequalities to describe the situation. Let x = amount to be invested in telecommunications and y = amount to be invested in pharmaceuticals.
- 3) Marcus is planting a section of garden with tomatoes and cucumbers. The available area of the section is 100 square feet. He wants the area planted with tomatoes to be more than 30% of the area planted with cucumbers. Write a system of inequalities to describe the situation. Let x = amount to be planted in tomatoes and y = amount to be planted in cucumbers.
- 4) Marcus is planting a section of garden with tomatoes and cucumbers. The available area of the section is 120 square feet. He wants the area planted with tomatoes to be more than 30% of the area planted with cucumbers. Write a system of inequalities to describe the situation. Let x = amount to be planted in tomatoes and y = amount to be planted in cucumbers.
- 5) Benjamin never has more than 23 hours free during the week. He is trying to make a weekly plan for dividing his free time between reading and working out. He wants to spend at least 4 hours per week reading. Write a system of inequalities to describe the situation. Let x = amount of time for reading and y = amount of time for working out.
- 6) Benjamin never has more than 22 hours free during the week. He is trying to make a weekly plan for dividing his free time between reading and working out. He wants to spend at least 5 hours per week reading. Write a system of inequalities to describe the situation. Let x = amount of time for reading and y = amount of time for working out.

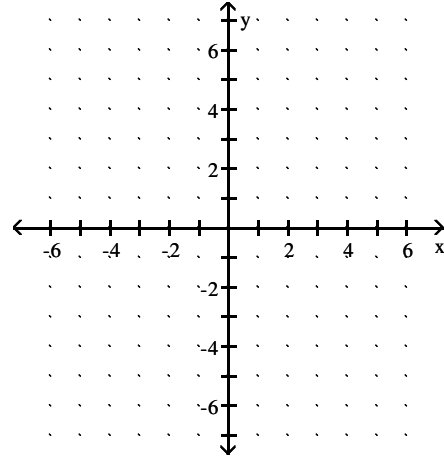
- 7) Mrs. White wants to crochet beach hats and baby afghans for a church fund-raising bazaar. She needs 2 hours to make a hat and 3 hours to make an afghan and she has 6 hours available. Thus, $2x + 3y \leq 6$, where x is the number of hats and y is the number of afghans. Can she make 9 hats and 7 afghans in the time allowed?
- 8) Mrs. White wants to crochet beach hats and baby afghans for a church fund-raising bazaar. She needs 7 hours to make a hat and 6 hours to make an afghan and she has 42 hours available. Thus, $7x + 6y \leq 42$, where x is the number of hats and y is the number of afghans. Can she make 7 hats and 6 afghans in the time allowed?
- 9) An office manager needs to buy new filing cabinets. Cabinet A takes up 7 square feet of floor space. Cabinet B takes up 4 square feet of floor space. The office has room for no more than 28 square feet of cabinets. Thus, $7x + 4y \leq 28$, where x is the number of A cabinets and y is the number of B cabinets. Does the office have enough floor space for 6 A cabinets and 7 B cabinets?
- 10) An office manager needs to buy new filing cabinets. Cabinet A takes up 4 square feet of floor space. Cabinet B takes up 5 square feet of floor space. The office has room for no more than 20 square feet of cabinets. Thus, $4x + 5y \leq 20$, where x is the number of A cabinets and y is the number of B cabinets. Does the office have enough floor space for 5 A cabinets and 9 B cabinets?
- 11) Benjamin never has more than 20 hours free during the week. He is trying to make a weekly plan for dividing his free time between reading and working out. He wants to spend at least 8 hours per week reading. Write a system of inequalities to describe the situation. Let x = amount of time for reading and y = amount of time for working out.
- 12) Yvette has up to \$1000 to invest and has chosen to put her money into telecommunications and pharmaceuticals. The telecommunications investment is to be no more than 2 times the pharmaceuticals investment. Write a system of inequalities to describe the situation. Let x = amount to be invested in telecommunications and y = amount to be invested in pharmaceuticals.
- 13) An office manager needs to buy new filing cabinets. Cabinet A takes up 9 square feet of floor space. Cabinet B takes up 8 square feet of floor space. The office has room for no more than 72 square feet of cabinets. Thus, $9x + 8y \leq 72$, where x is the number of A cabinets and y is the number of B cabinets. Does the office have enough floor space for 8 A cabinets and 3 B cabinets?

Graph the solution of the system or indicate that there is no solution.

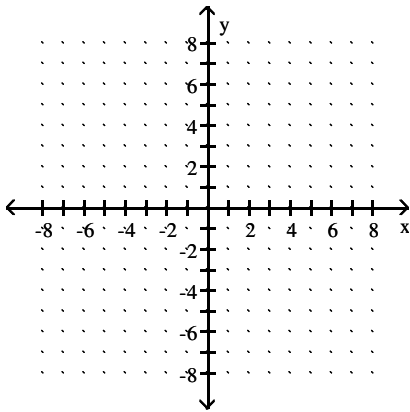
14) $x + y > 4$
 $x - y \leq 5$



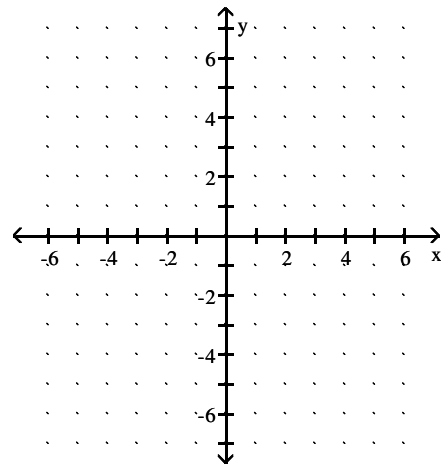
16) $2x + y \geq 4$
 $x > 1$



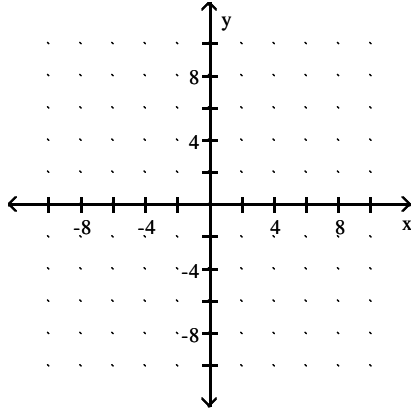
15) $x + y > -4$
 $x - y \leq 4$



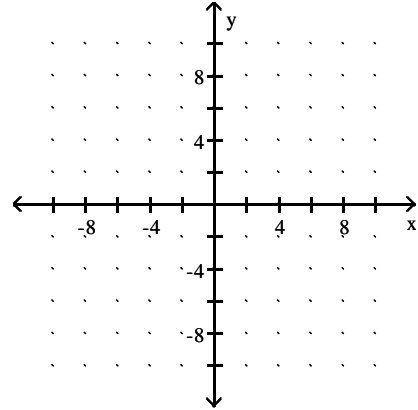
17) $x + 2y \geq 2$
 $x - y \leq 0$



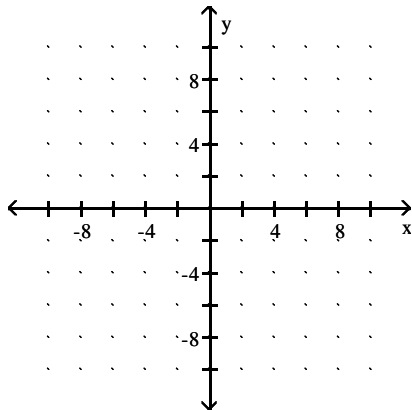
18) $y \geq x + 4$
 $y \leq -1 - x$



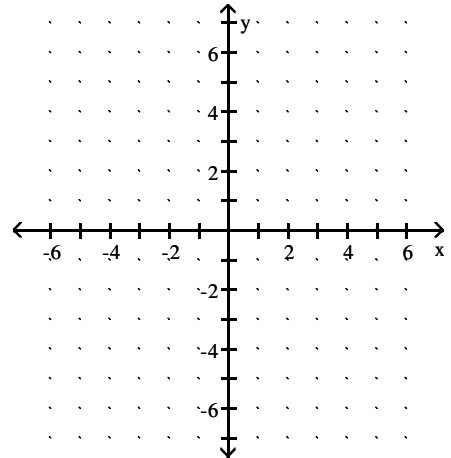
20) $y \geq 2x - 3$
 $y \leq -3 - x$



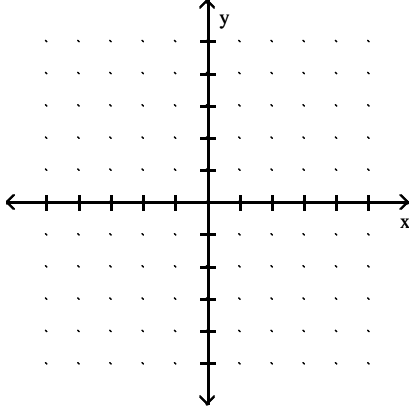
19) $y \geq x - 1$
 $y \leq -3 - x$



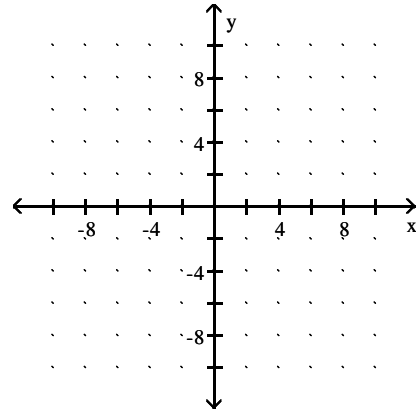
21) $2x + y \geq 4$
 $x > 1$



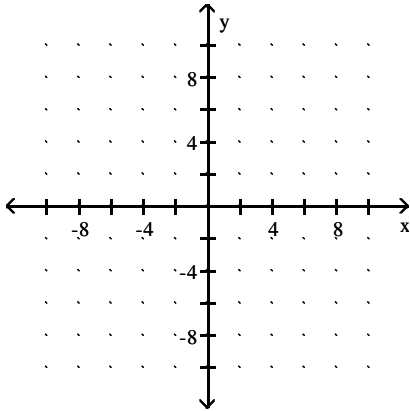
22) $x + 4y > -12$
 $y \geq -1$



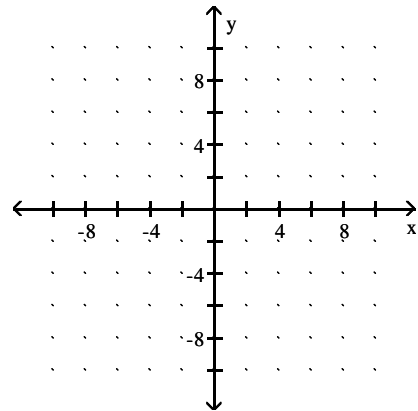
24) $y < 3x - 4$
 $y \leq -\frac{3}{4}x$



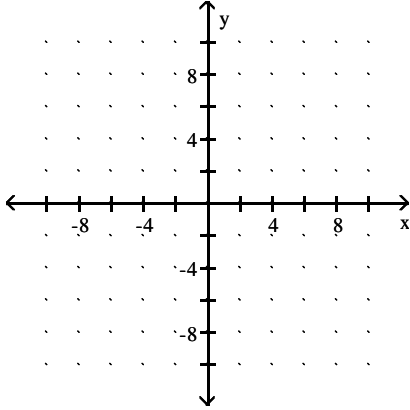
23) $y < 3x - 3$
 $y \leq -2x$



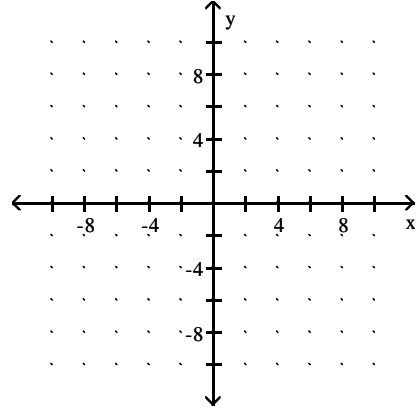
25) $2x + y < 2$
 $2x + y > 1$



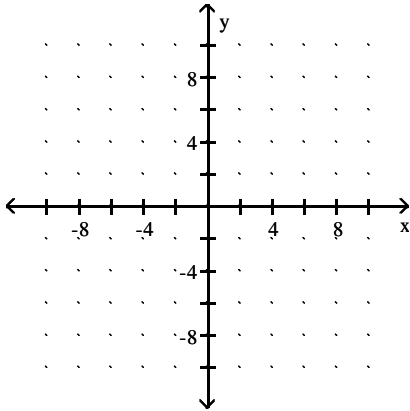
26) $3x + y < 6$
 $3x + y > -1$



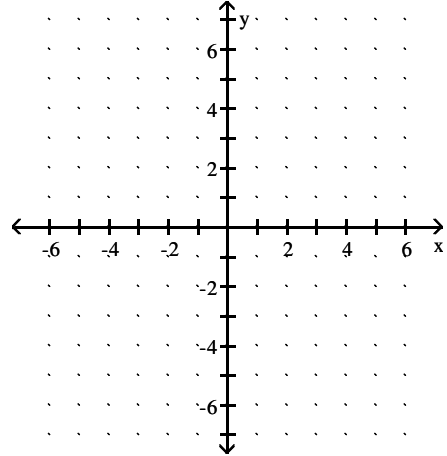
28) $2x - y \leq -4$
 $x + 4y \geq 4$



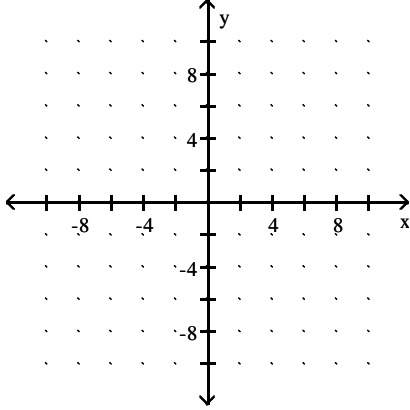
27) $2x - y \leq -6$
 $x + 3y \geq -6$



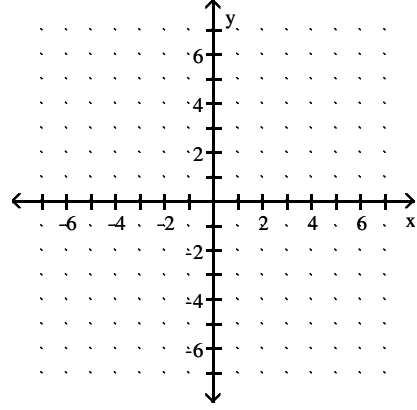
29) $2x + y \geq 4$
 $x > 1$



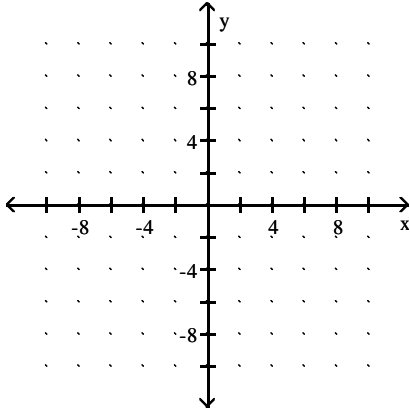
30) $3x + 5y > 10$
 $x - 3y < -3$



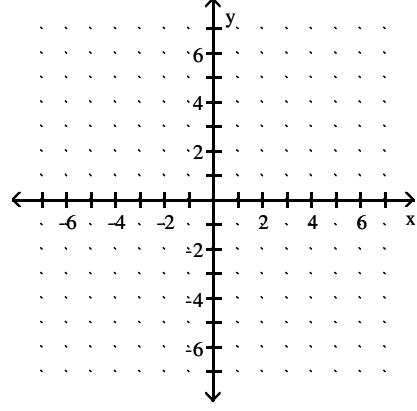
32) $y > -3$
 $x \geq 5$



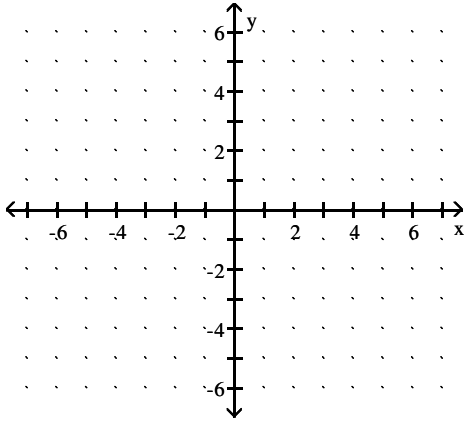
31) $5x + 2y > 2$
 $x - 3y < 3$



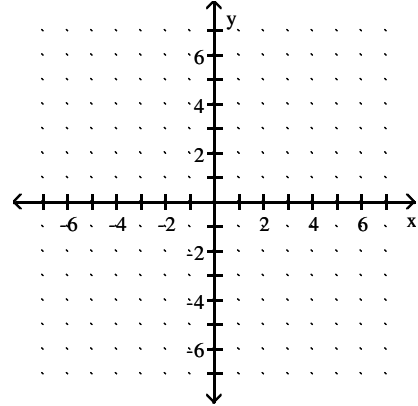
33) $y > 3$
 $x \geq -2$



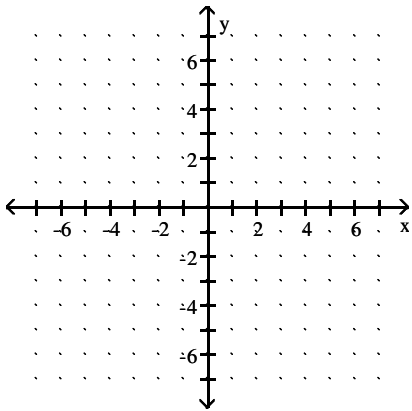
34) $2x + 3y \geq 6$
 $x - y \leq 3$
 $y \leq 2$



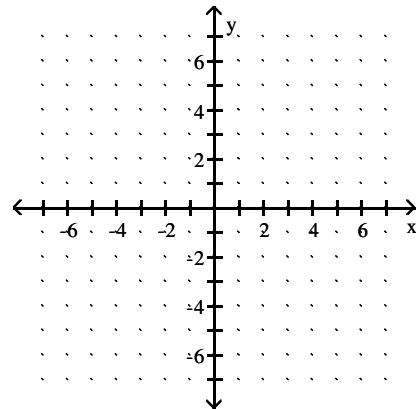
36) $6x + 3y \leq 18$
 $x + y \leq 4$
 $x \geq 0$
 $y \geq 0$



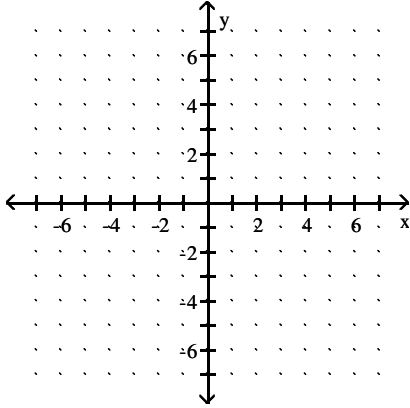
35) $6x + 4y \leq 24$
 $x + y \leq 5$
 $x \geq 0$
 $y \geq 0$



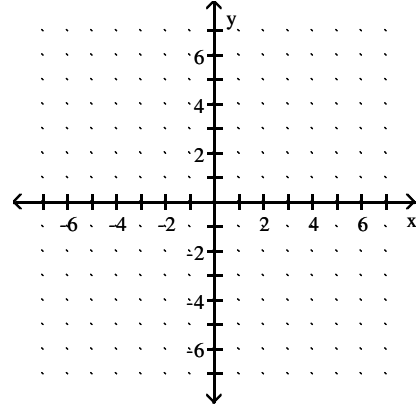
37) $3x + y > 6$
 $3x + y < -1$



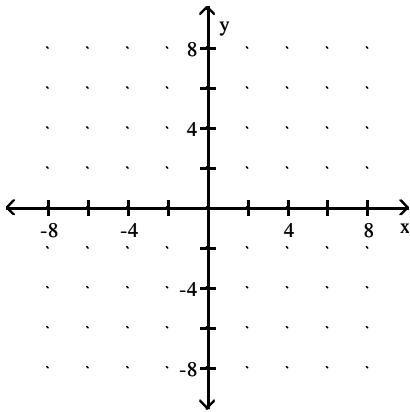
38) $-2x + y > 2$
 $-2x + y < 1$



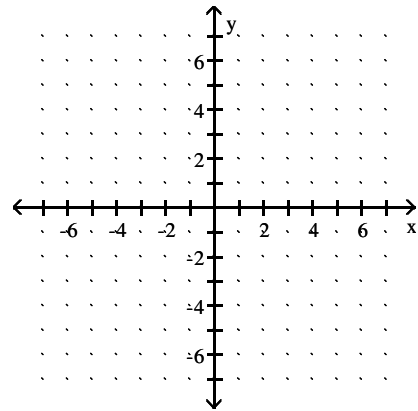
40) $6x + 2y \leq 12$
 $x + y \leq 5$
 $x \geq 0$
 $y \geq 0$



39) $y \geq 2x - 4$
 $x + 2y \leq 7$
 $x \geq -2$
 $y \leq 1$



41) $7x + 4y \leq 28$
 $x + y \leq 5$
 $x \geq 0$
 $y \geq 0$



Answer Key

Testname: 05.5V02

1) $x + y \leq 7000$

$x \leq 4y$

$x \geq 0$

$y \geq 0$

2) $x + y \leq 1000$

$x \leq 5y$

$x \geq 0$

$y \geq 0$

3) $x + y \leq 100$

$x > 0.30y$

$x \geq 0$

$y \geq 0$

4) $x + y \leq 120$

$x > 0.30y$

$x \geq 0$

$y \geq 0$

5) $x + y \leq 23$

$x \geq 4$

$y \geq 0$

6) $x + y \leq 22$

$x \geq 5$

$y \geq 0$

7) No

8) No

9) No

10) No

11) $x + y \leq 20$

$x \geq 8$

$y \geq 0$

12) $x + y \leq 1000$

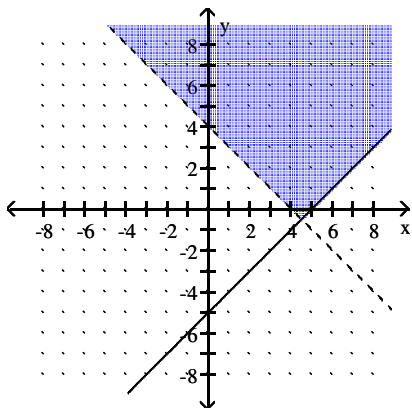
$x \leq 2y$

$x \geq 0$

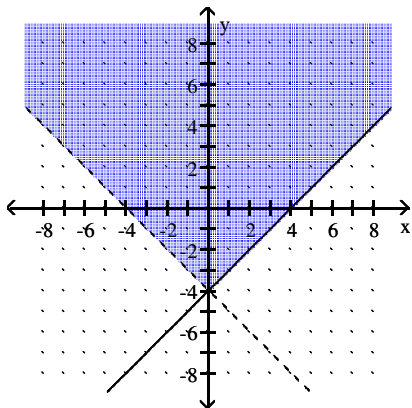
$y \geq 0$

13) No

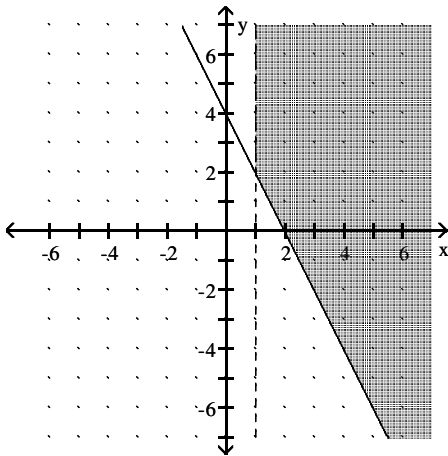
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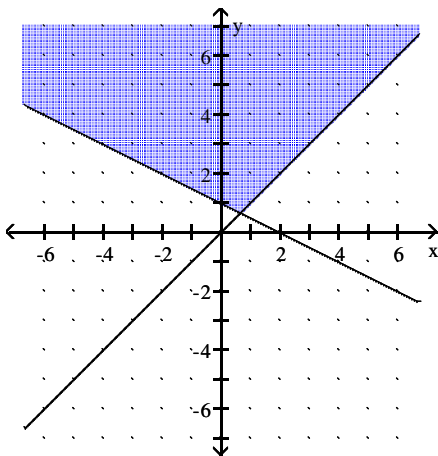
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16)

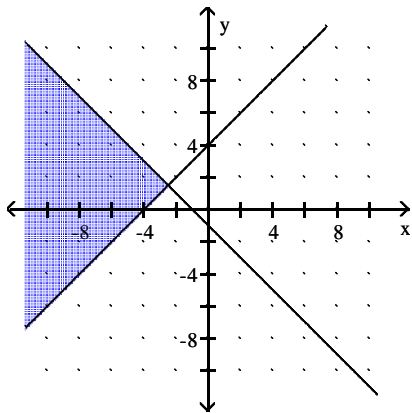


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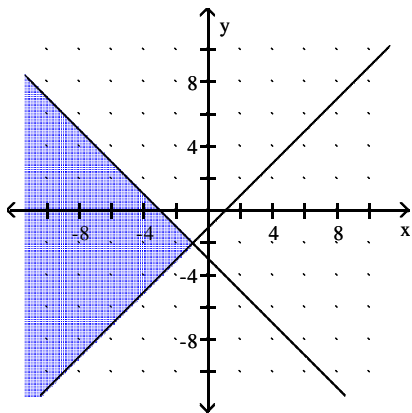


Answer Key
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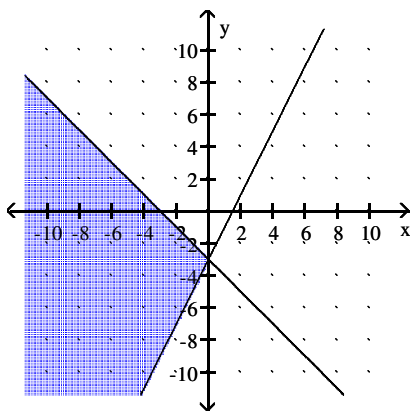
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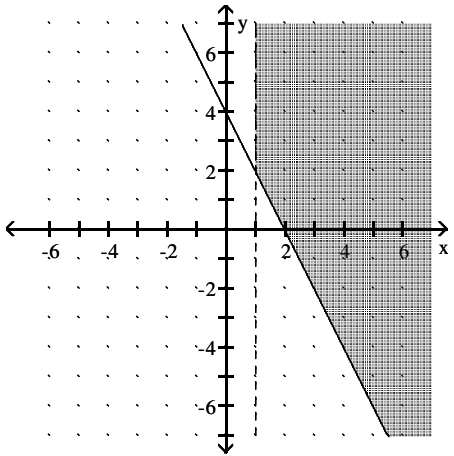
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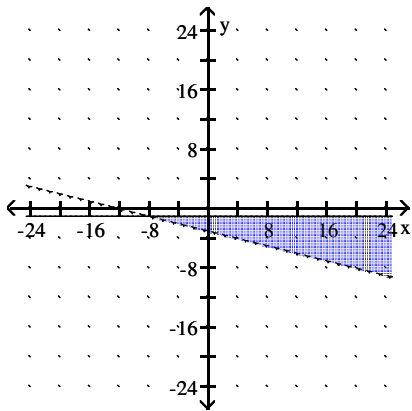
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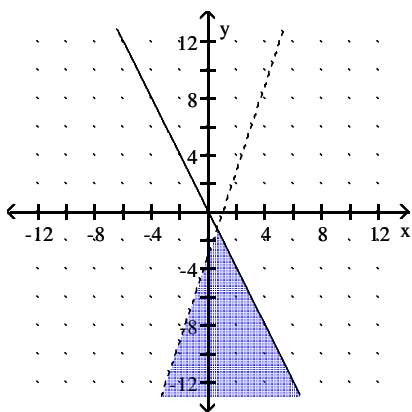
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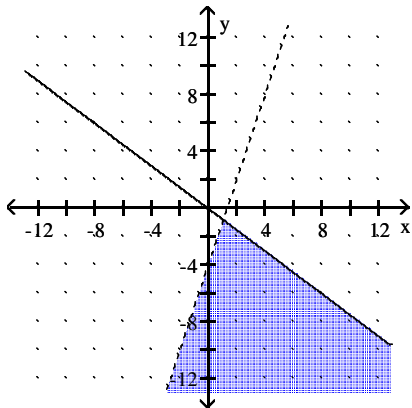


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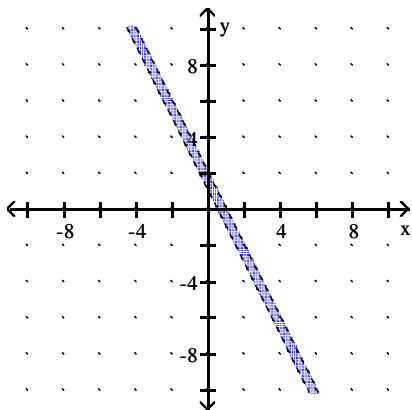


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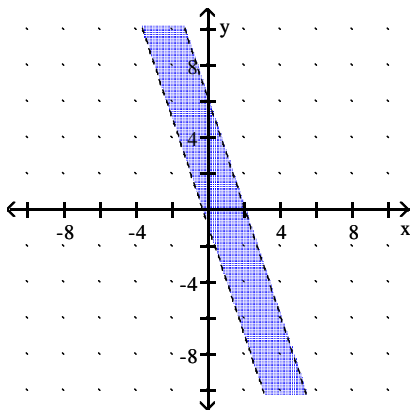
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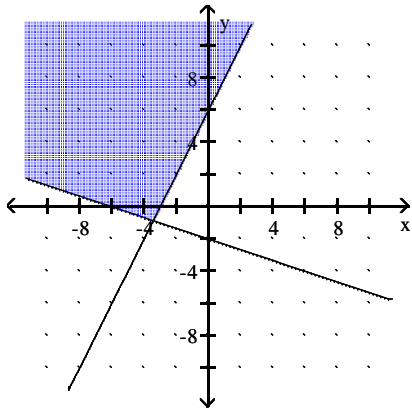


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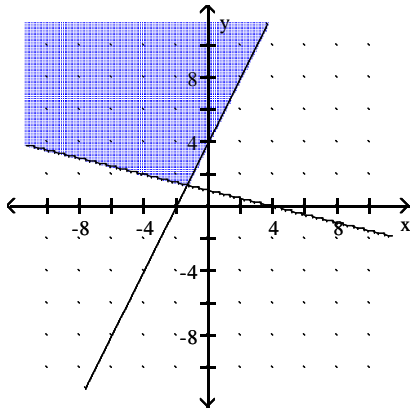


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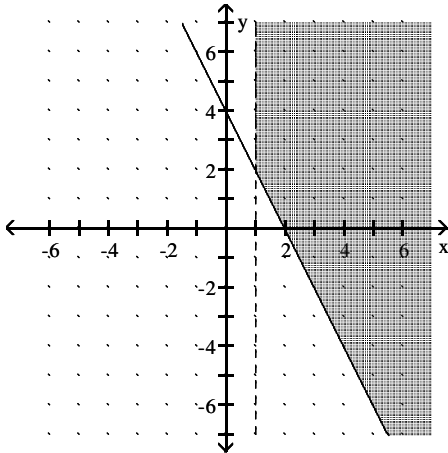
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28)



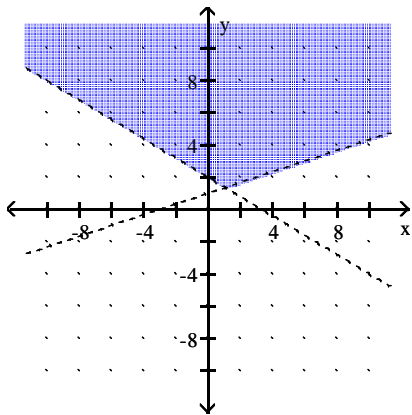
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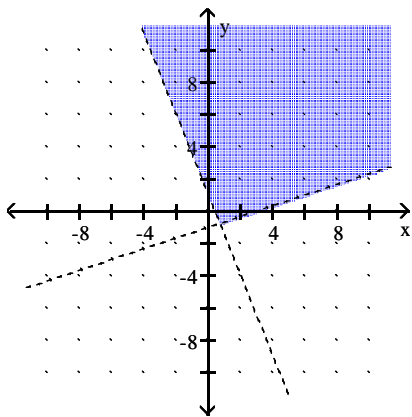
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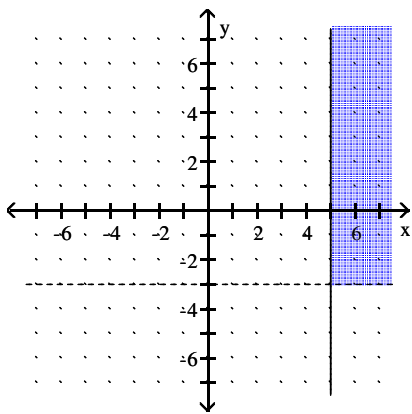
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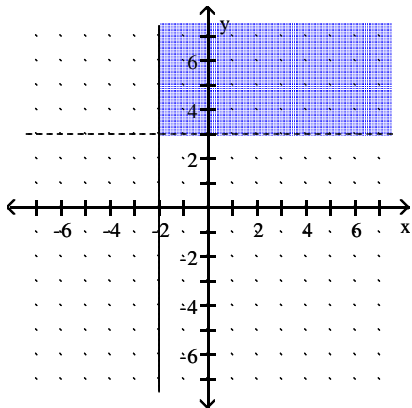


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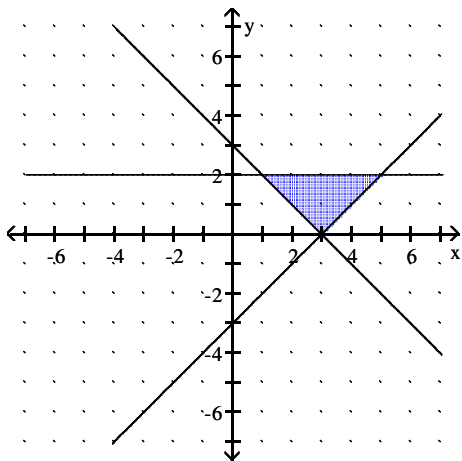


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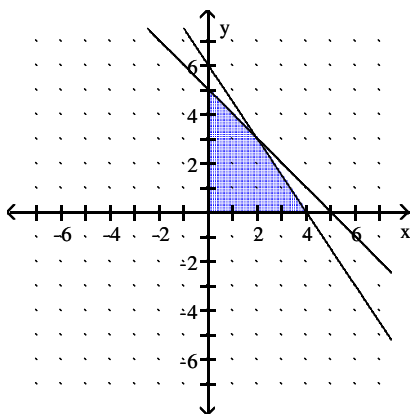
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34)



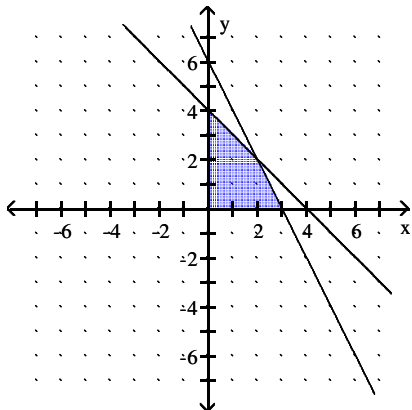
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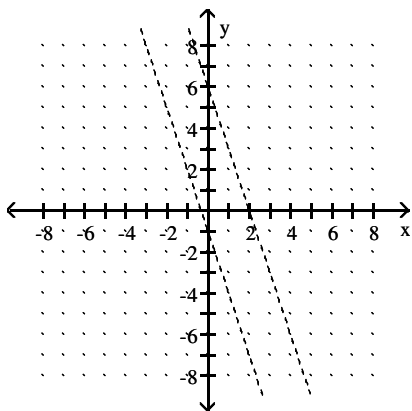
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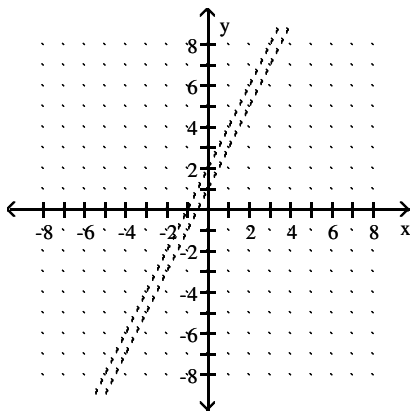
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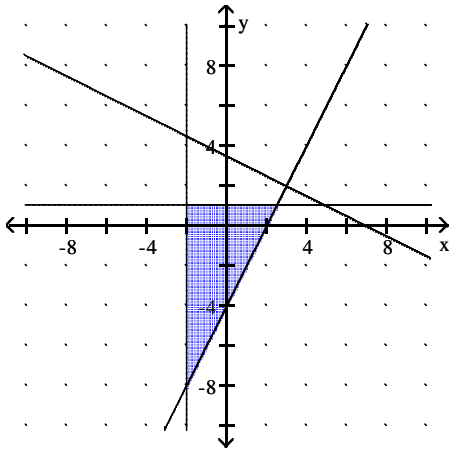
37) no solution; \emptyset



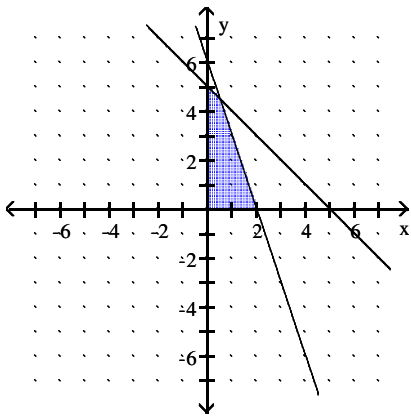
38) no solution; \emptyset



39)



40)



41)

