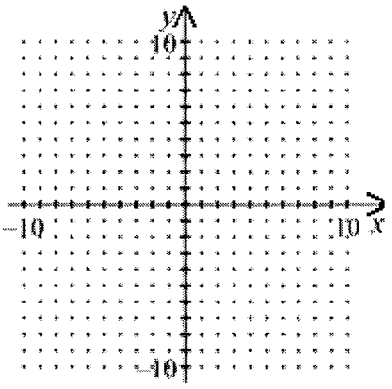
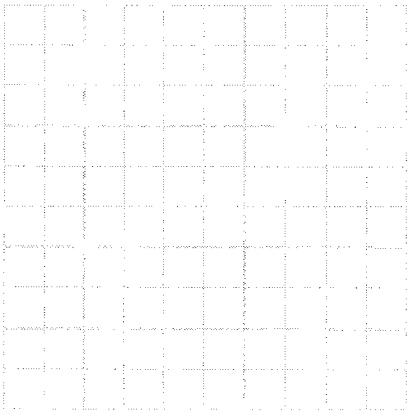
Name: _____ Class: _____ Date: _____ ID: A

Chapter 7 Practice Test, lessons 1 - 6

1. Solve the system by graphing:
   $x+y=8$
   $3x-y=4$



2. Solve the linear system by graphing.
   $x+y=1$
   $3x-y=-5$



3. Use substitution to solve the linear system.
   $3x-y=15$
   $x+2y=-2$

4. Use substitution to solve the linear system.
$x - 4y = 6$
$2x + y = -4$

Solve by elimination:

____ 5. $2x + 2y = 4$
$3x - 2y = 16$

a. $(4, -2)$ b. $(0, 2)$ c. $(12, -2)$ d. no solution

Solve the system:

6. $3x + 4y = 4$
$3x + y = 10$

7. Solve the system.
$y = -\frac{3}{4}x + \frac{1}{4}$
$y = \frac{3}{4}x - \frac{3}{4}$

8. Solve the system by adding or subtracting.
$9x - 7y = -77$
$-3x - 9y = 3$

9. Use elimination to solve the linear system.
   $3x+2y=-5$
   $4x-3y=16$

10. x pounds of candy valued at \$3.50 per pound is mixed with y pounds of candy valued at \$4.30 per pound to produce 10 pounds of a mixture selling for \$4 per pound. Find x and y, the number of pounds of each type.

11. Find the solution of the system, if it exists.
   $4x-2y=3$
   $2x-y=10$

12. Writing: Without graphing, tell which pair(s) of equations below make a system of equations with one solution. Explain how you know.
   A. $5x-y=3$ B. $3y-6x=-12$ C. $3y+2=6x$

13. Writing: Without graphing, tell which pair(s) of equations below make a system of equations with no solutions. Explain how you know.
   A. $4y-8x=-6$ B. $3x-4y=2$ C. $4y+2=8x$

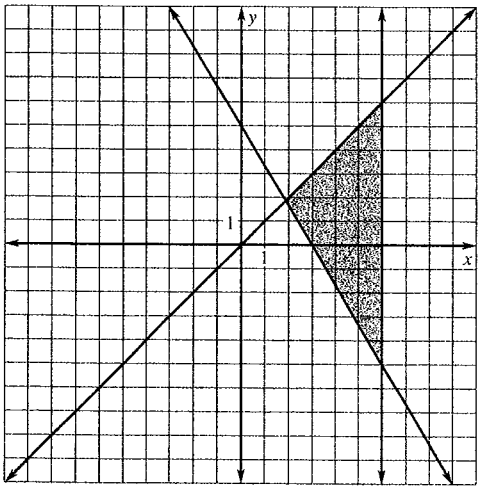
14. Graph the system of linear inequalities.
   $y \leq -2x-1$
   $y \leq 3$

Solve the system of inequalities graphically:

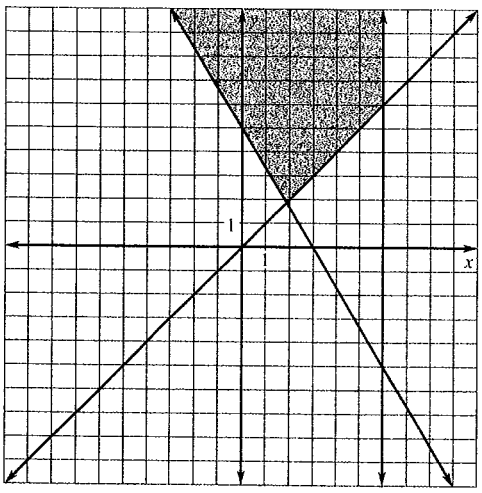
15. $y \geq -2x - 1$
$y < -2$

____ 16. Graph the solution set of the system of inequalities: $5x + 3y \geq 15,\ x \geq y,\ x \leq 6$

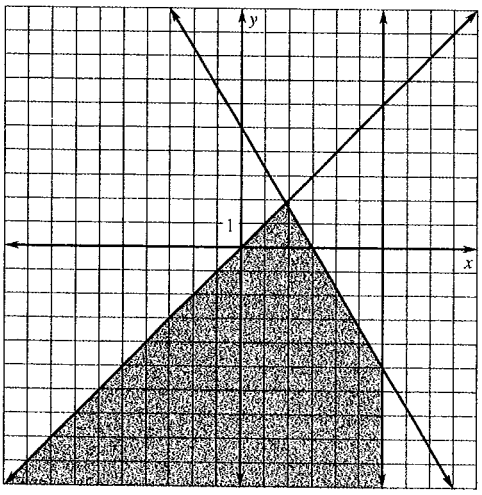
a.



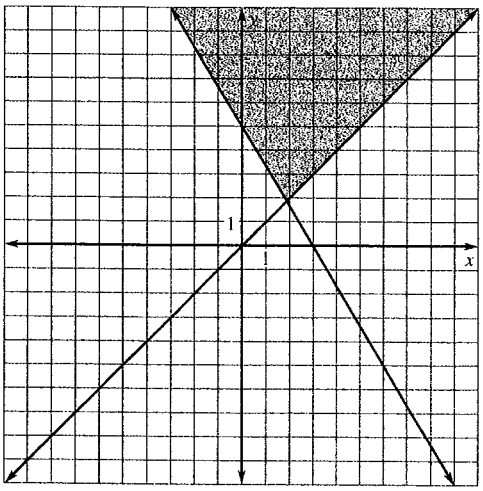
b.



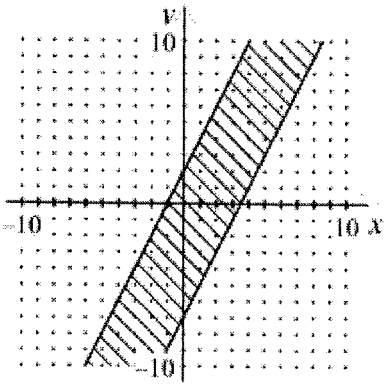
c.



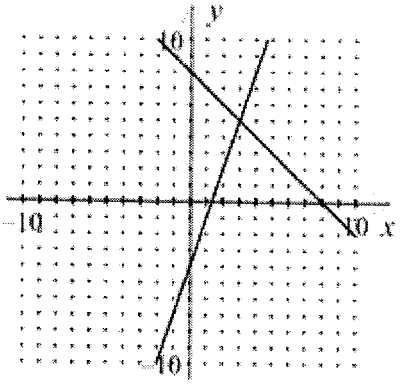
d.



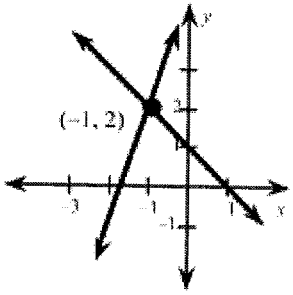
17. Write a system of linear inequalities that defines the shaded region.



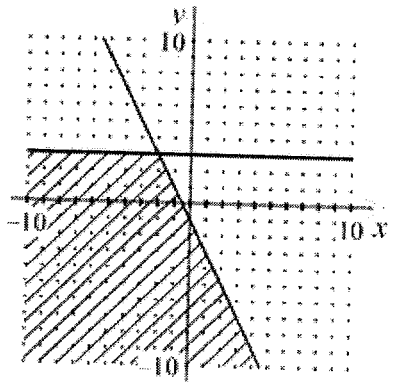
Chapter 7 Practice Test, lessons 1 - 6
Answer Section

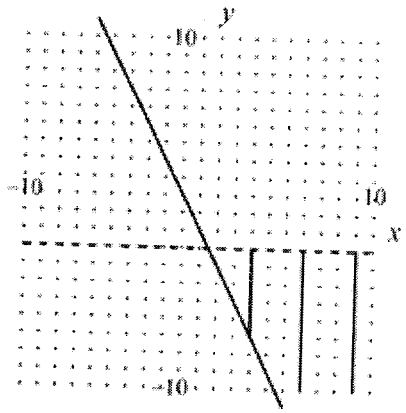
1. 

   $(3, 5)$
2. (–1, 2)



3. $(4, -3)$
4. $\left(-\frac{10}{9}, \frac{16}{9}\right)$
5. A
6. (4, –2)
7. $\left(\frac{2}{3}, -\frac{1}{4}\right)$
8. (–7, 2)
9. (1, –4)
10. $x = 3.75$ lb; $y = 6.25$ lb
11. No solution
12. Both A and B, and A and C; the slope of the graph of equation A is 5 while that of equations B and C is 2. So, the graphs of A and B intersect in exactly one point, as do the graphs of A and C. Since the graphs of equations B and C have the same slope and different y-intercepts, they are parallel and do not intersect.
13. A and C; the slope of equations A and C is 2 and the two graphs have different y-intercepts, so the two lines are parallel and do not intersect. Since the graph of equation B has slope $\frac{3}{4}$, it will intersect the graphs of equations A and C.

14. 

15. 

16. A

17. $y \leq 2x + 2$
$y \geq 2x - 7$