1. Answers may vary.

2. system of linear inequalities

3. linear inequality in two variables

4. solution of a system of linear inequalities

5. solution of an inequality in two variables

6. (–1.5, –3.5)

7. (−2.5, 0.4)

8. no solution

9. Let x = the number of people and y = the total charges. The equations that model the situation are:

   A+ Food: $y = 35x + 75$

   Super Cater: $y = 38x$

   The solution is (25, 950). This indicates that it costs $950 to buy 25 gift baskets from both companies.

   Kiyo should use A+ Food if she expects 28 guests.

10. $\left(\frac{3}{11}, -\frac{7}{11}\right)$

11. $\left(\frac{11}{4}, \frac{5}{2}\right)$

12. (16, 6)

13. approximately (3.355, 0.388)

14. no solution

15. infinitely many solutions

16. 12 ft long and 8 ft wide

17. 152 boxed action figures, and 94 collector pins

18. $2x - y = -2$

$3x - 2y = 4$

$(-8, -14)$

19. $5x - 2y = 10$

$4x + 3y = -6$

$\left(\frac{18}{23}, -\frac{70}{23}\right)$

20. Yes; The equation $4x - 6y = 28$ is 2 times the equation $2x - 3y = 14$, and the equation $-15x + 6y = -24$ is -3 times the equation $5x - 2y = 8$.

21. No; There is no number you could multiply $3x - 4y = -6$ by to get $6x - 8y = 12$.

22. No; If either the x- or y-value is the same in both equations, then you can eliminate one variable using addition or subtraction.

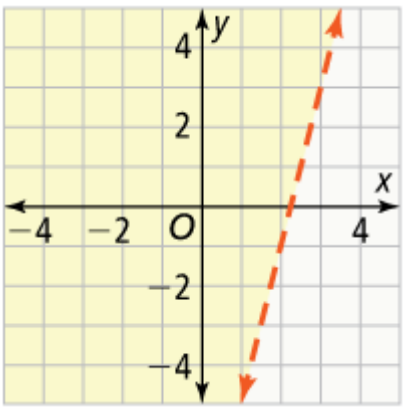
23. pens = \$3.95/pack, paper = \$4.95/pack

24. Yes; the ordered pair (2, 5) is within the shaded region, so it is a solution to the inequality.

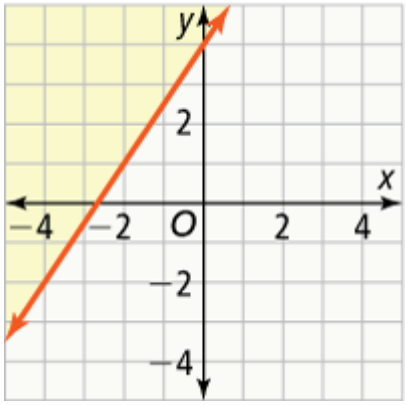
25. No; the ordered pair (3, –1) is not within the shaded region, so it is not a solution to the inequality.

26. Yes; the ordered pair (–2, 4) is within the shaded region, so it is a solution to the inequality.

27.

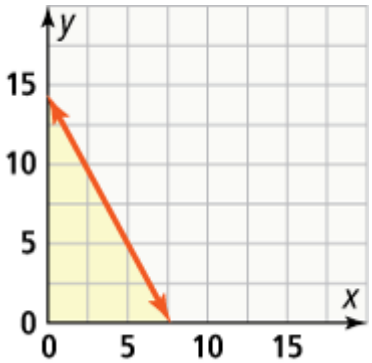


28.



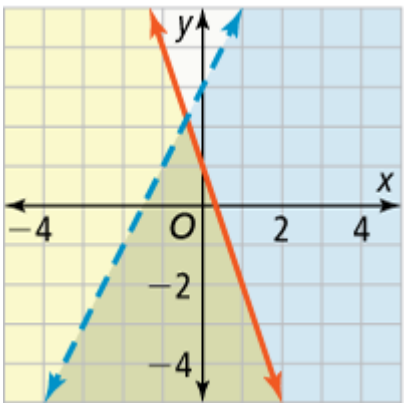
29. Answers may vary. Sample: $y < x + 4$

30. $65x + 35y \leq 500$

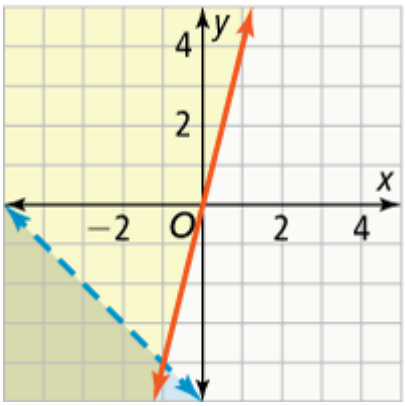


4 large gift boxes

31.



32.



33. $x \geq 0$ and $y \geq 0$

34. $x + y \leq 60$

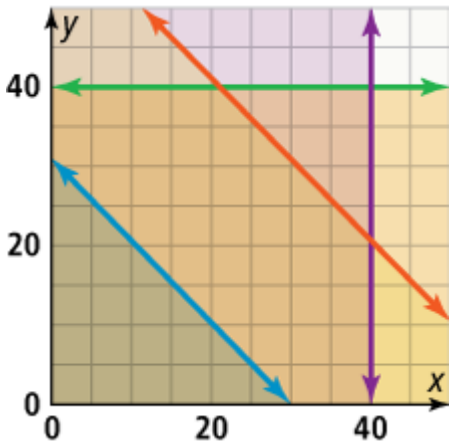
$x + y \geq 30$

$x \geq 0$

$x \leq 40$

$y \geq 0$

$y \leq 40$



the maximum she can make is $3,300 for 40 necklaces and 20 bracelets.