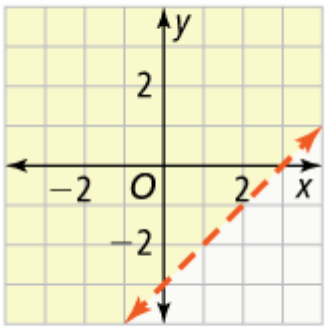
10. Both; Answers may vary. Sample: The graph can be represented by the first inequality. The second inequality can be rewritten as the first inequality, so the graph represents both inequalities.

11. The student thought that $1 \leq 1$ was not a true statement. The statement is true because the symbol is greater than or equal to, and 1 is equal to 1. So, (1, 1) is a solution of the inequality.

12. The graph of the inequality $x < y + 3$ is the same as the graph of the inequality $y > x - 3$. Graph the boundary line $y = x - 3$. Make the line dashed since the inequality is strictly greater than, and shade above the line.



Answers may vary. Sample: The inequality $x < y + 3$ and $y < x + 3$ both have a dashed border line with a slope of 1. However, the y-intercept of $x < y + 3$ is -3, and the y-intercept of $y < x + 3$ is 3. The shaded region is above the border line in the inequality $x < y + 3$ and below the border line in the inequality $y < x + 3$.

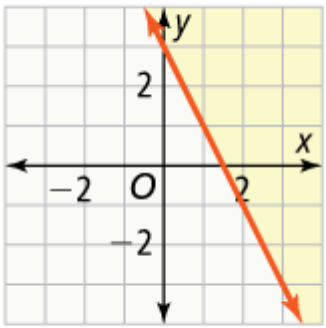
13. Answers may vary. Sample:

$y \geq \frac{4}{5}x + \frac{23}{5}$

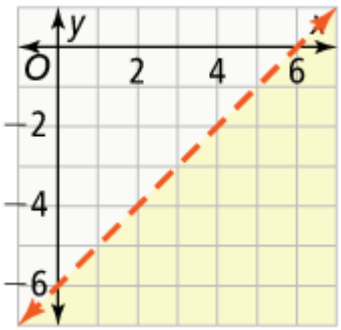
14. Answers may vary. Sample: The graph of a linear inequality in one variable of $x < 4$ is on a number line. There is an open circle over 4 and an arrow pointing to the left. The graph of a linear inequality in two variables of $x < 4$ is a vertical, dashed line at $x = 4$ with the half plane to the left of the line shaded.

15. Answers may vary. Sample: When an inequality is solved for y, the border line is determined by the equation that is formed by substituting an equal sign for the inequality sign. Then, use the inequality symbol to determine whether y-values should be greater than the border line or less than the border line. y-values greater than the border line are found above the line and y-values less than the border line are found below the line.

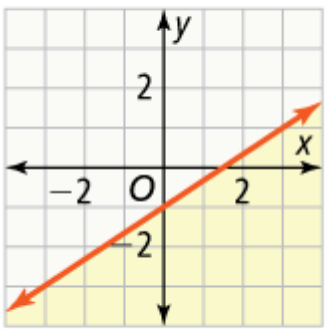
16.



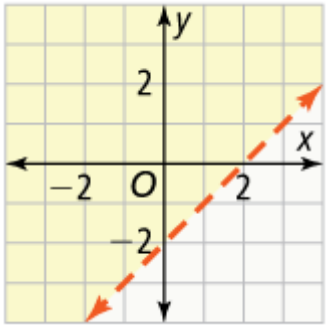
17.



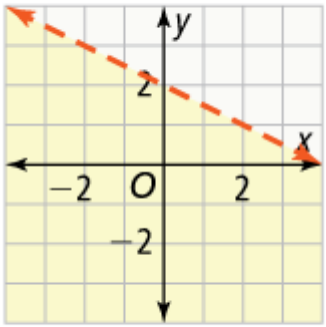
18.



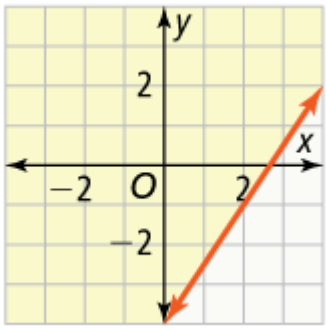
19.



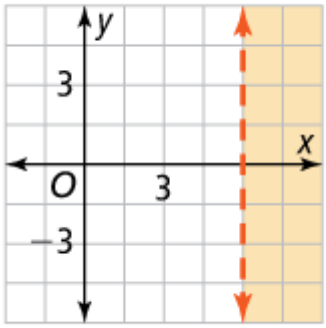
20.



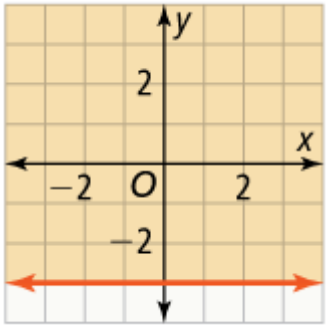
21.



22.



23.



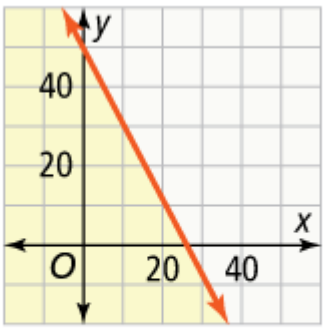
24. $y \leq -3x - 4$

25. $y < \frac{1}{3}x + 2$

26. $y > 0.4x + 3$

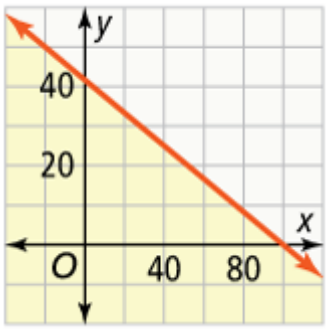
27. $y \geq -\frac{1}{4} + 4$

28. **a.** $23x + 12y \leq 600$

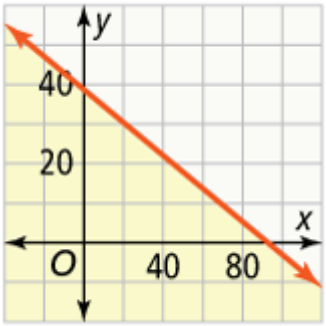


b. 11 or fewer

29. **a.** $25x + 60y \leq 2{,}500$

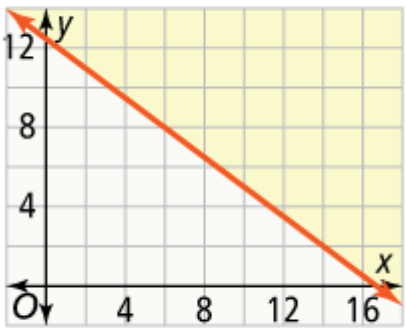


b.



c. The graph from part (b) is the graph from part (a) shifted down by 3. The y-intercept shifts from $41\frac{2}{3}$ to $38\frac{2}{3}$. Also, the x-intercept shifts from 100 to 92.8. There are fewer possible solutions in the first quadrant when the mover rides than when the mover does not ride.

30. $6x + 8y \geq 100$



yes

31. **a.** yes

b. yes

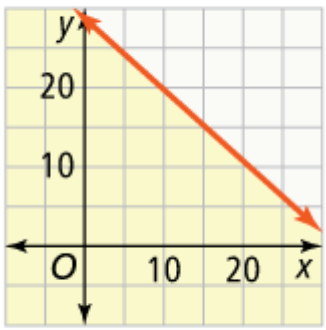
c. no

d. yes

32. C

33. **Part A** $3.6x + 4y \leq 115$

Part B



As the number of photos stored increases, the number of songs that can be stored decreases.

Part C No; Answers may vary. Sample: Although you could consider adding negative photos or songs as deleting a photo or song, the graph would not provide a good model of this because it allows only deleting or adding for each type of item. The graph does not include the possibility of deleting some photos and then adding additional photos or deleting some songs and then adding additional songs.