Chapter 6: Solving Linear Inequalities

Study Guide

6.1-6.3: Solve Inequalities by Multiplication and Division:

Solve each inequality and graph your solution on a number line.

Ex: $2x-1\geq 7$

Ex: $-5\geq 2x-3$

Ex: $18>-4x+2$

6.3*: Solve Multi-Step Inequalities:

Solve each inequality.

Ex: $6(2x+3)\geq 9(x+2)$

Ex: $3(4x-2)<2(6x-2)$

Ex: $-2(x+4)\geq -2x-3$

Ex: $-4(x-2)\leq -x+16$

Ex: The photography club at your school decides to publish a calendar to make money. The cost to make all of the calendars is $600 and they plan to sell the calendars at $5.50 each. The club wants to make at least $1200.

a) Write an inequality to show the number of calendars the photography club would need to sell in order to meet their goal.

b) Solve your inequality.

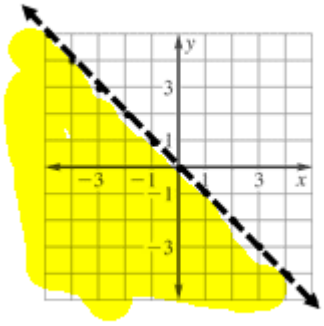
c) *Explain* using 3-5 complete sentences, what the solution means, including possible numbers of calendars the club could sell and one possible number of calendars that would not work.

6.7: Graph Linear Inequalities in Two Variables:

Decide if an ordered pair is a solution to an inequality.

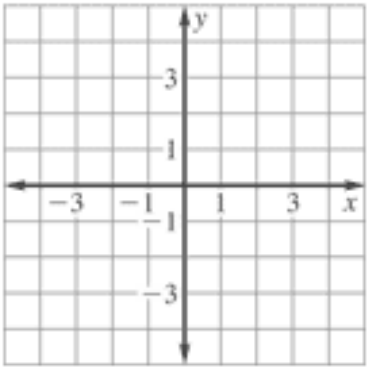
Ex: $\frac{3}{4}x - \frac{1}{3}y < 6$; (–8, 12)

Ex: (–1, 1)

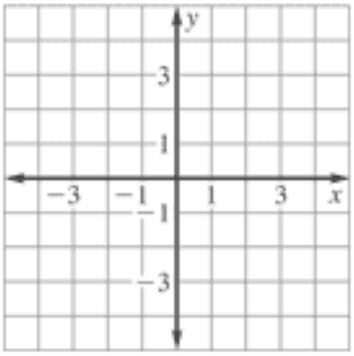


Graph linear inequalities in two variables.

Ex: $y \geq 3x - 4$



Ex: $x < y$



Ex: A concert promoter needs to take in at least $380,000 from ticket sales. The promoter charges $30 for floor seats and $20 for bleacher seats.

a) Write an inequality to represent the situation.

b) Graph the inequality.

c) Identify a possible combination that would allow the promoter to meet his goal.