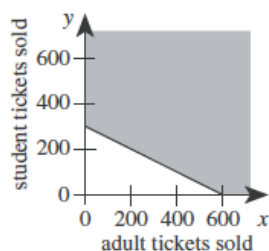
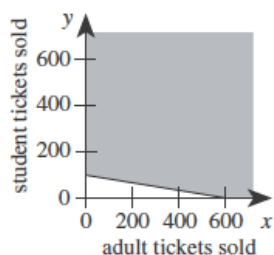
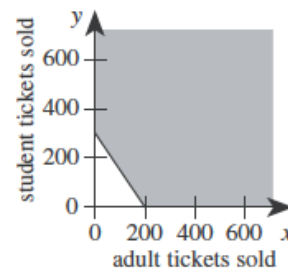
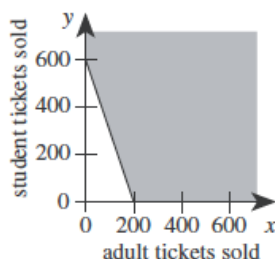
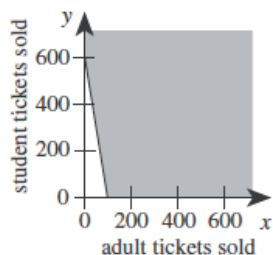


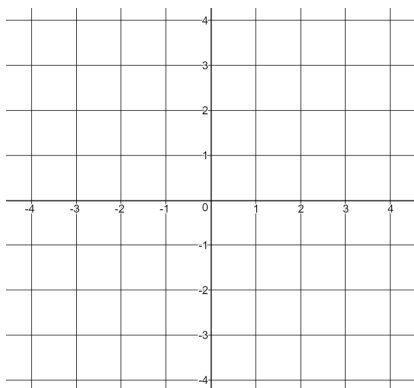
Linear Inequalities

Tickets for the Senior Talent Show at George Washington Carver High School are \$3 for adults and \$2 for students. To cover expenses, a total of \$600 must be collected from ticket sales for the show. One of the following graphs in the standard (x, y) coordinate plane, where x is the number of adult tickets sold and y is the number of student tickets sold, represents all the possible combinations of ticket sales that cover at least \$600 in expenses. Which graph is it?

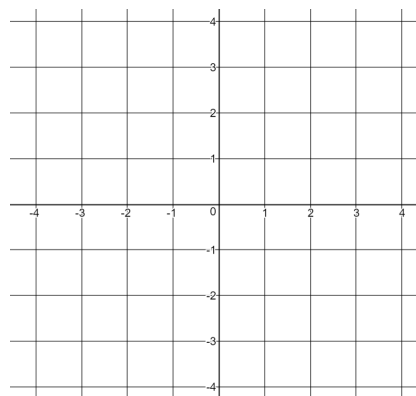


Graph these.

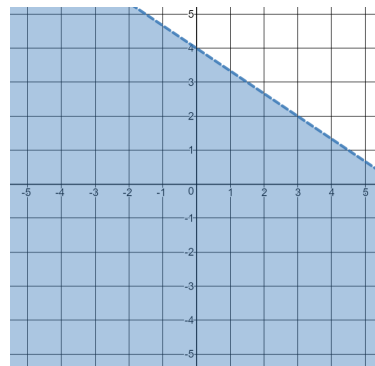
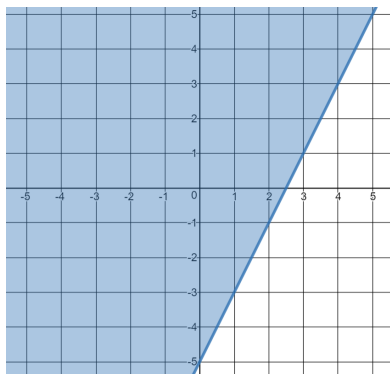
$$y < 3x - 4$$



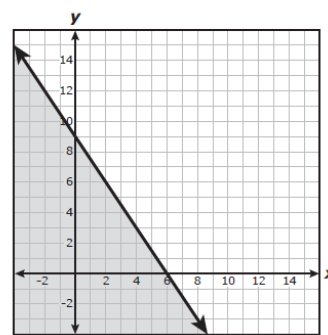
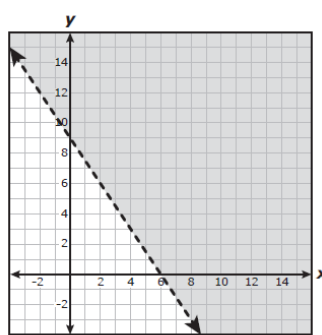
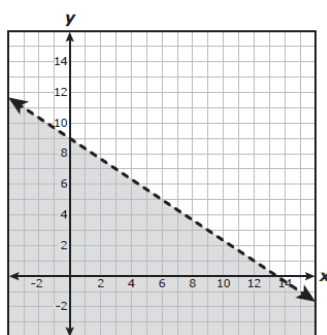
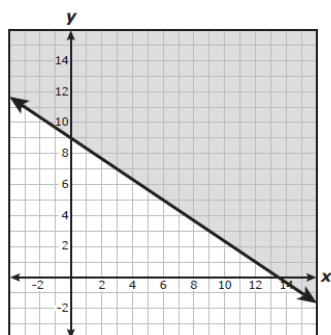
$$y \geq -\frac{4}{3}x + 2$$



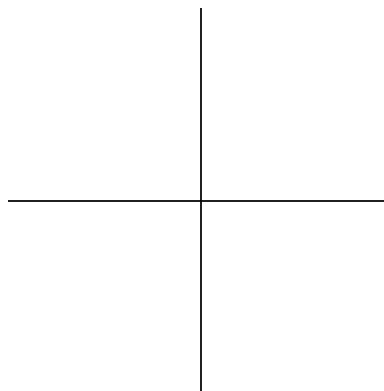
Write an inequality that represents each graph.



Which graph best represents the solution set of $-4x \leq 6y - 54$?



Write an inequality that has the points $(-2, -6)$ and $(4, -3)$ on the line and $(6, -4)$ and $(2, -4)$ as solutions.



A student is ordering a flower arrangement. She can choose any combination of roses and carnations for her flower arrangement, and she does not want to spend more than \$30. If roses cost \$3 each and carnations cost \$2 each, which inequality represents all possible combinations of x roses and y carnations?

- A $3x + 2y < 30$
- B $3x + 2y \leq 30$
- C $2x + 3y > 30$
- D $2x + 3y \leq 30$

The average annual energy cost for a certain home is \$4,334. The homeowner plans to spend \$25,000 to install a geothermal heating system. The homeowner estimates that the average annual energy cost will then be \$2,712. Which of the following inequalities can be solved to find t , the number of years after installation at which the total amount of energy cost savings will exceed the installation cost?

- A) $25,000 > (4,334 - 2,712)t$
- B) $25,000 < (4,334 - 2,712)t$
- C) $25,000 - 4,334 > 2,712t$
- D) $25,000 > \frac{4,332}{2,712}t$