

Name:

Class:

Algebra, Unit 2: Practice Summative Assessment

Question 1

Consider the inequality

$$\frac{3x + 1}{4} > \frac{5x}{6} + 2$$

Which value of x is a solution to the inequality?

- (a) -27
- (b) -21
- (c) 0
- (d) 21

Question 2

Elise is organizing a garden party. She wants to serve both punch, p , and tea, t . Each cup of punch costs \$0.30 and each cup of tea costs \$0.50. She has a budget of \$40.00 for drinks.

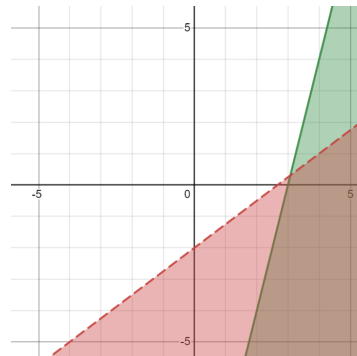
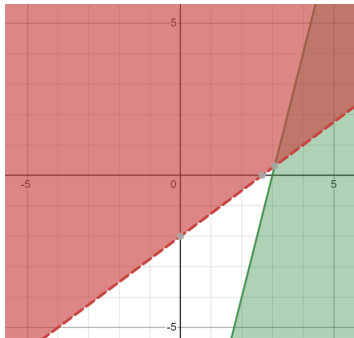
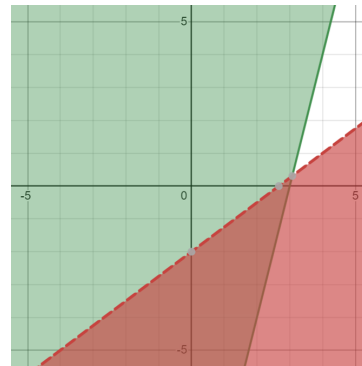
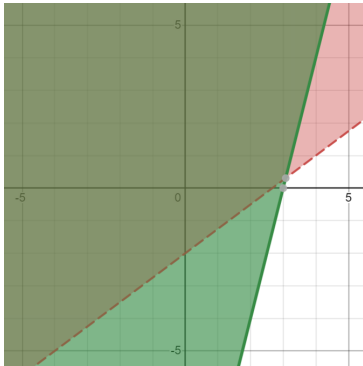
Select **all** of the inequalities that represent this situation.

- | | | | | |
|---------|---------|---------|-----------------------|-----------------------|
| (a) | (b) | (c) | (d) | (e) |
| $p > 0$ | $t < 0$ | $p = t$ | $0.3p + 0.5t \geq 40$ | $0.3p + 0.5t \leq 40$ |

Question 3

Which graph represents the solution to this system of inequalities

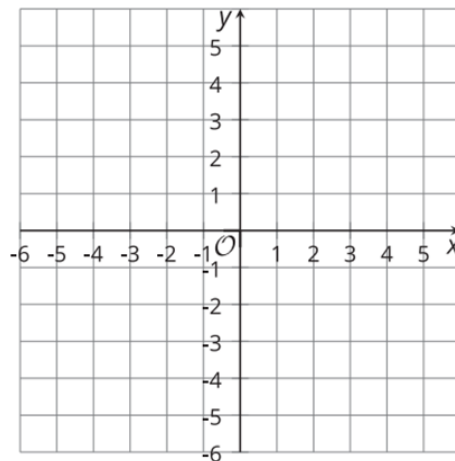
$$\begin{cases} 4x - y \geq 12 \\ y < \frac{3}{4}x - 2 \end{cases}$$



Question 4

Graph the solution to the inequality

$$3x + 4y > 12$$



Question 5

A business consultant charges \$200 for an hour-long general strategy meeting about investment opportunities in emerging energy technologies. She charges \$500 for an hour-long meeting with specific investment advice. The consultant wants to work a maximum of 10 hours per week and earn a minimum of \$3,000.

Part 1

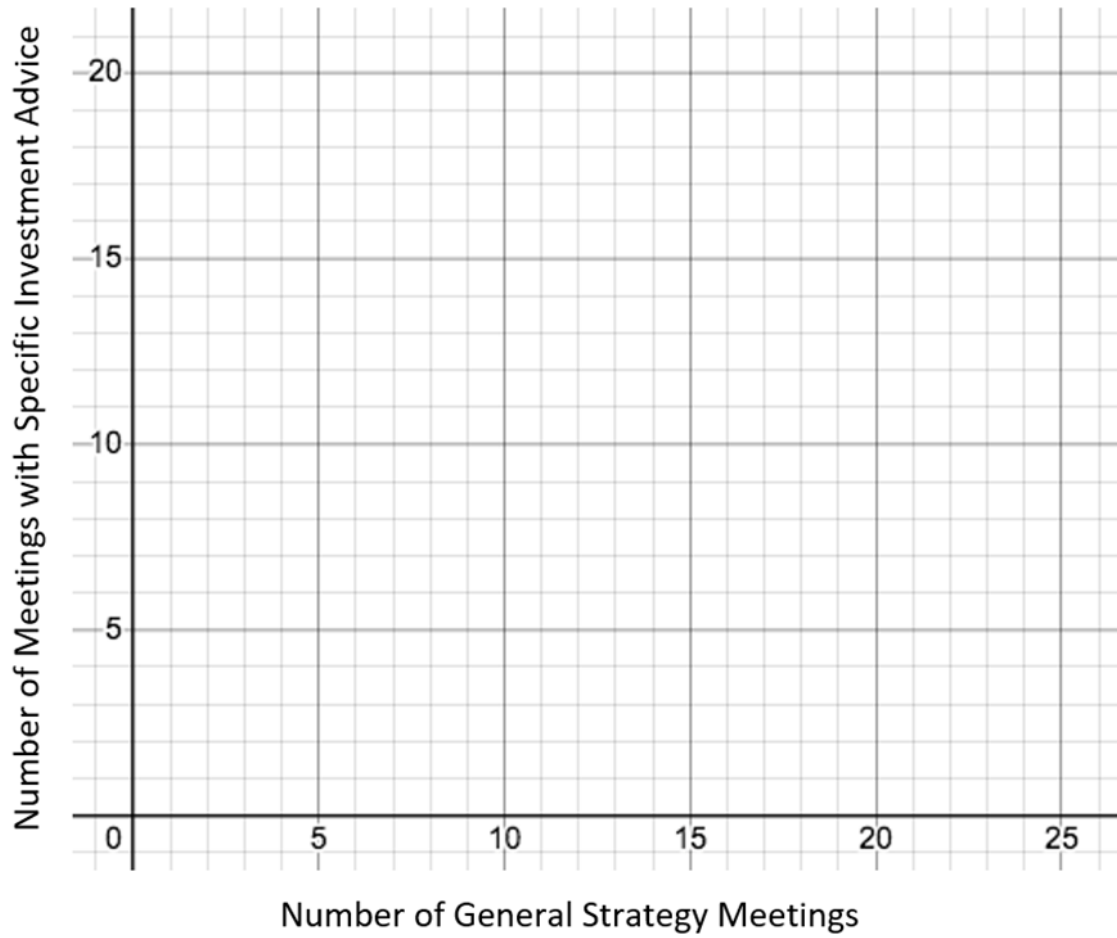
Write an inequality representing the amount of money the business consultant is looking to earn with x as general strategy meetings and y as meetings with specific investment advice.

Part 2

Write an inequality representing the number of meetings the business consultant is looking to make with x as general strategy meetings and y as meetings with specific investment advice.

Part 3

Graph the system of inequalities.



Part 4

List **two** points that could represent the number of meetings that would meet the consultant's goals.

Question 6

You are organizing a fan bus fundraiser for a college volleyball championship game. You need to raise at least \$1,000 to pay for the bus. You are selling basic tickets, which cost \$10, and super-fan tickets that include a seat and an autographed program from all the players for \$20. There are 70 seats on the bus.

Part 1

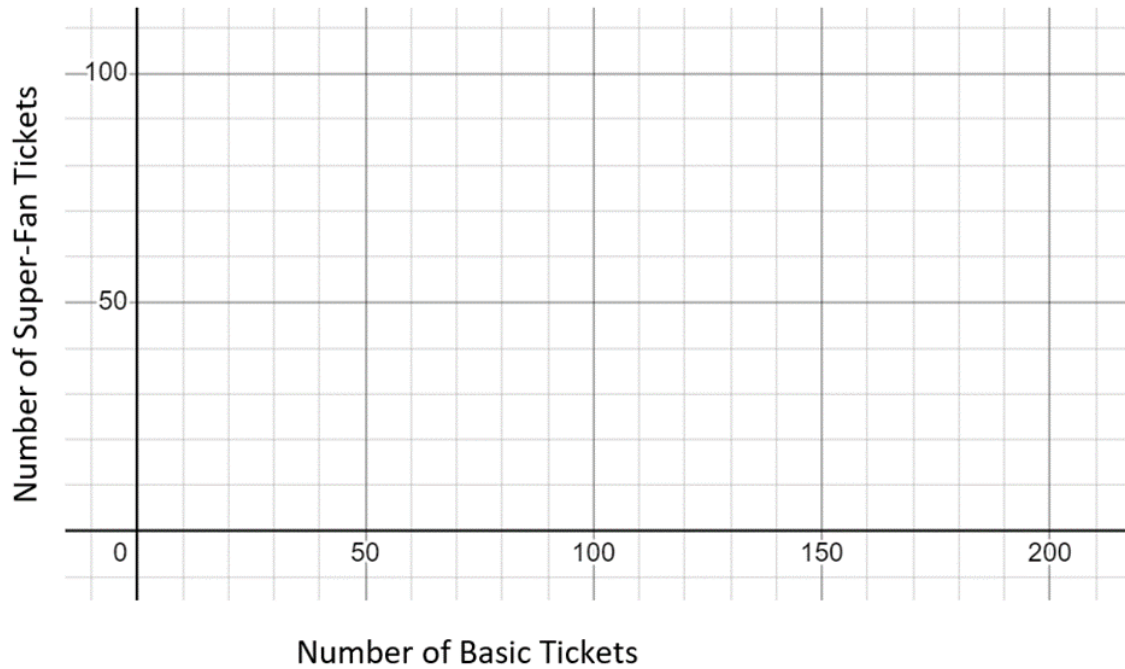
Write an inequality representing the amount of money you need to raise with x as basic tickets and y as super-fan tickets.

Part 2

Write an inequality representing the number of seats you can sell with x as basic tickets and y as super-fan tickets.

Part 3

Graph the system of inequalities.



Part 4

List **two** points that could represent the number of tickets that would meet your goals.