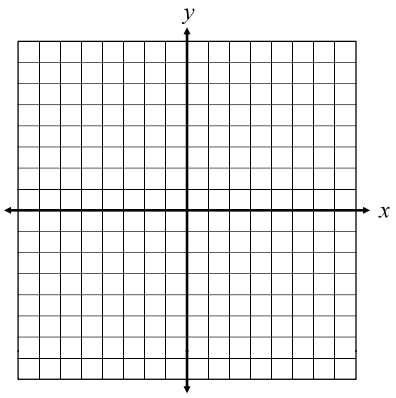
Name: _____ **Unit 2:** Linear Functions

Date: _____ **Bell:** _____ **Homework 7:** Linear Inequalities

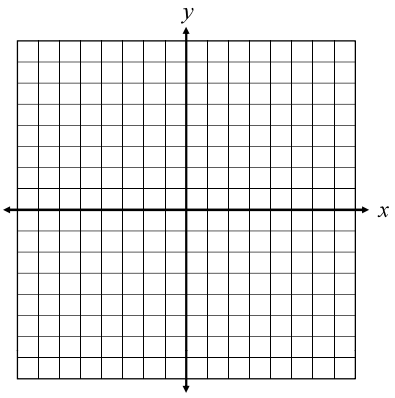
**** This is a 2-page document! ****

Directions: Graph each linear inequality.

1. $y \leq -\frac{5}{4}x + 2$



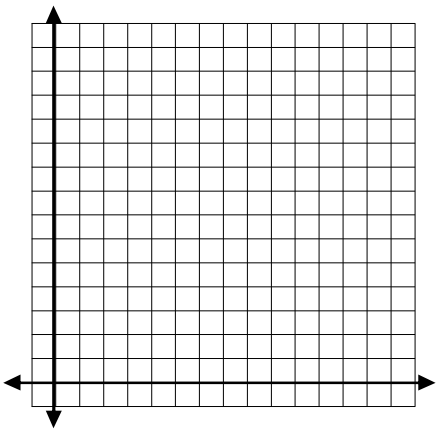
2. $4x - y < -1$



3. In football, a kicker can score one point for the extra-point on a touchdown or three points for a field goal. Logan is a kicker for his high school football team. The record number of points scored by a kicker in a single game is 24. Logan is hoping to beat this record in his next game.

a) Write a linear inequality to represent this situation, then graph.

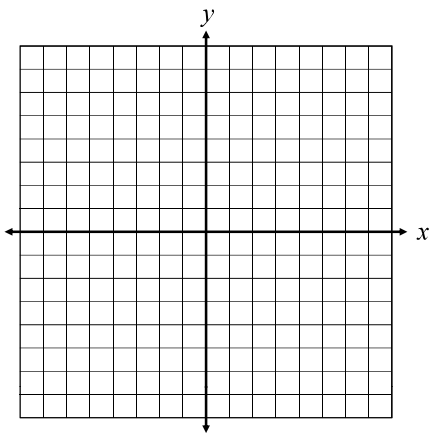
b) Using your graph, give two possible combinations extra-point kicks and field goals Logan could score to beat the current record.



Directions: Graph each system of linear inequalities. Clearly indicate the solution region.

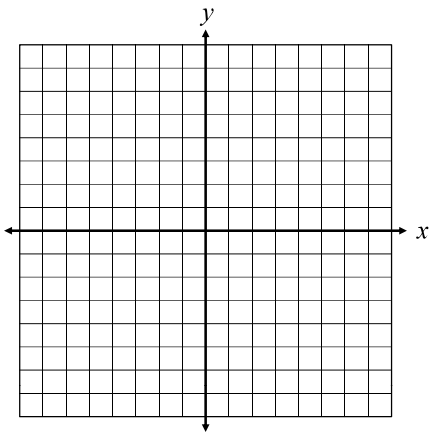
4. $x + 2y \geq -12$

$y < 6x + 7$



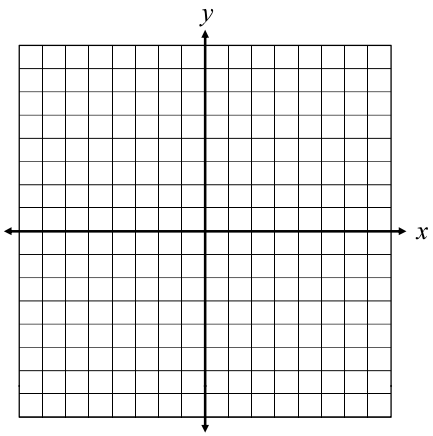
5. $2x - 5y < -20$

$x > -3$



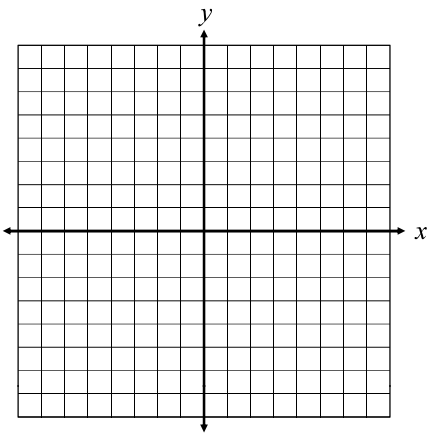
6. $x - y \geq 4$

$x + 5y \leq 0$



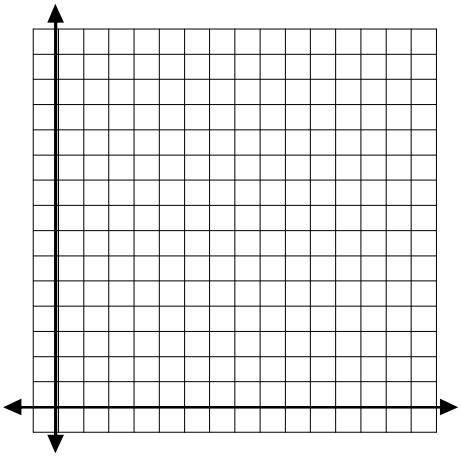
7. $8x - 4y > -28$

$6y \geq 12x - 36$



8. Brandon is shopping at Old Navy during a sale. All shorts are $16 each and all t-shirts are $10 each. He has $100 to spend and would like to purchase at least 2 pairs of shorts.

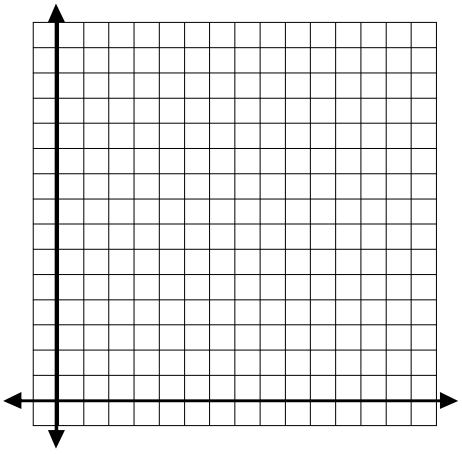
a) Write a system of linear inequalities to represent this situation, then graph.



b) Using your graph, give two possible combinations of shorts and t-shirts that Brandon can buy.

9. Darcy is buying apples and oranges for a large fruit basket to give away as a door prize at a charity event. Apples cost $0.24 each and oranges cost $0.80 each. She has $12 to spend and would like to purchase at least 20 pieces of fruit in total.

a) Write a system of linear inequalities to represent this situation, then graph.



b) Using your graph, give two possible combinations of apples and oranges Darcy can buy.