

Day 14 – Systems of Inequalities Applications

Name: _____

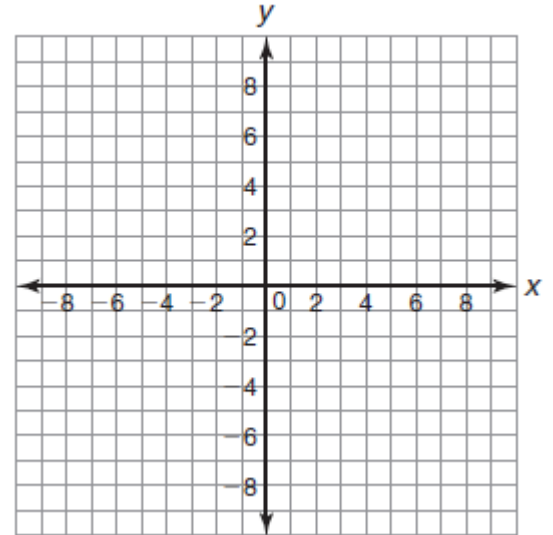
Extra Practice Assignment

Date: _____ Block: _____

1. Sean has 50 tokens to spend at the school carnival. The Ferris wheel costs 10 tokens and the carousel costs 5 tokens. Answer the following questions:

a. Create an inequality to represent this scenario.

b. Graph this inequality on the graph.



c. If Sean rides the Ferris wheel 4 times and the carousel 3 times, will he have enough tokens? Explain why algebraically and graphically.

d. If Sean rides the Ferris wheel 2 times and the carousel 5 times, will he have enough tokens? Explain why algebraically and graphically.

e. Calculate the x and y-intercepts and explain what they mean in terms of the problem scenario.

2. The maximum capacity for an average passenger elevator is 15 people and 2200 pounds. It is estimated that adults weigh 200 pounds and children under 16 weigh 100 pounds.

a. Define what your variables will represent. Create a system of inequalities to represent this scenario.

b. If 7 children and 6 adults get on the elevator, will that combo satisfy the constraints? Explain why or why not.

c. If 10 adults and 5 children get on the elevator, will that combo satisfy the constraints? Explain why or why not.

3. Define your variables and create a system of inequalities for each scenario below:

a. Jonah is going to the store to buy candles. Small candles cost \$3.50 and large candles cost \$5.00. He needs to buy at least 20 candles, and he can spend no more than \$80.

b. John is packing books into boxes. Each box can hold either 15 small books or 8 large books. He needs to pack at least 35 boxes and at least 350 books.