4.1C – Linear Inequalities Application Problems #2

Solve the following Inequality Word Problems. When graphing, be sure to label your axis properly.

Period: _____ Date: _____

1) Elizabeth is baking desserts for a potluck. At least 72 servings of dessert will be required. For every batch of brownies she bakes, she will get 20 servings, and every pie will yield 6 servings.

x = the number of batches of brownies y = the number of pies

Write the inequality in standard form that describes the situation.

Graph the solution.

If Elizabeth makes 4 batches of brownies and 5 pies, will she have enough desserts for the potluck? Justify your answer using the graph.



- Donald is buying soda and juice for a party and wants to spend no more than \$30. Soda costs \$2 per bottle, and juice costs \$1 per bottle.
- x = the number of bottles of soda
- y = the number of bottles of juice

Write the inequality in standard form that describes this situation.

Graph the solution.

Donald gets to the store and finds that there are only 12 bottles of soda on the shelf. What is the maximum number of juice bottles he can purchase without going over budget? Justify your answer using the graph.



3) In order to earn some extra money, Harry is mowing lawns. He charges \$10 to mow a small lawn and \$25 to mow a large lawn. He would like to make at least \$300. Write an inequality that describes this situation if x= the number of small lawns and y= the number of large lawns.



- (5, 10) yes / no
- (18, 3) yes / no
- (8,7) yes / no
- (7, 12) yes / no

4) Mrs. Avila is making treats for a tea party later this week and she has up to a dozen eggs to use for this purpose. A batch of scones requires 2 eggs and a batch of miniature tarts requires 3 eggs. Write an inequality that describes this situation if x = the number of batches of scones and y = the number of batches of miniature tarts



Verify each using algebra.

5) The Brookfield City Ballet is selling tickets for an upcoming performance, and the ballet company hopes to bring in at least \$6,600 in revenue. Regular tickets cost \$69, whereas discounted tickets cost \$17. Write the inequality describes this situation if x = the number of regular tickets sold and y = the number of discounted tickets sold.

If 32 discounted tickets are sold, what is the minimum number of regular priced tickets that must be sold to bring in the revenue goal?

6) The manager of an electronics store projects that the store should achieve more than \$22,000 in revenue from TVs and DVD players each month in order to remain profitable. Its DVD players sell for \$130, and TVs sell for \$430. If x = the number of DVD players sold and y = the number of TVs sold

If 34 TVs and 52 DVD players are sold, did the manager make his goal?

What is dollar value he needed to make his goal OR the dollar value he exceeded his goal by?