

6.5 – Graphing Linear Inequalities Homework Part 2

1. Mrs. Roth is ordering pizza and breadsticks for a school pizza party and has a budget of \$81, but no more. An order of breadsticks costs \$7 and a pepperoni pizza costs \$13. Let x represent the number of orders of breadsticks and y represent the number of pepperoni pizzas. Write a linear inequality that describes the situation.
2. Rustin High school science department can spend no more than \$2,700 on textbooks this year. The department needs to buy both Biology textbooks, which cost \$57 each, and Chemistry textbooks, which cost \$72 each. Let x represent the number of Biology textbooks and y represent the number of Chemistry textbooks. Write a linear inequality that describes the situation.
3. A landscaping business is purchasing plants from a nursery to finish a project. It will cost \$14 to buy each tree and \$5 to buy each bush. The landscaper wishes to keep the spending under \$1000. Let x represent the number of trees and y represent the number of bushes. Write a linear inequality that describes the situation.
4. In order to raise money to attend upcoming competitions, the debate team at Henderson is selling apple cider and hot chocolate at a basketball game. They hope to make at least \$240 in revenue at tonight’s game, with hot chocolate selling for \$1 and hot apple cider selling for \$2. Let x represent the number of hot chocolates sold and y represent the number of apple ciders sold. Write a linear inequality that describes the situation.
5. The manager of Best Buy projects that the store should achieve more than \$21,000 in revenue from sales of TVs and DVD players every day in order to remain profitable. Its DVD players sell for \$380, and TVs sell for \$530. Let x represent the number of DVD players sold and y represent the number of TVs sold. Write a linear inequality that describes the situation.
6. Countries are being asked to donate food packages and medicine packages. Let x represent the number of food packages and let y represent the number of medicine packages. Write a linear inequality for each country:

Country A	Country B	Country C
<p>Memo from your country’s Budget Committee:</p> <p><i>Because we are spending so much money on improving our hospitals right now, our funds are very limited. We are constrained to spending up to, but not more than \$300,000. Each food package will cost our country \$900, and each medicine package will cost \$600.</i></p>	<p>Memo from your country’s Budget Committee:</p> <p><i>Because we are spending so much money on improving our schools right now, our funds are very limited. We are constrained to must spending no more than \$600,000 total. Each food package will cost our country \$500, and each medicine package will cost \$2000.</i></p>	<p>Memo from your country’s Budget Committee:</p> <p><i>Since our country is doing so well financially, our citizens voted that we must spend more than \$540,000 in aid to other countries. Each food package will cost our country \$2000, and each medicine package will cost \$3000.</i></p>

Inequality: _____

Inequality: _____

Inequality: _____

<p style="text-align: center;">Country D</p> <p>Memo from your country’s Budget Committee:</p> <p><i>Since our country is doing so well financially, our citizens voted that we must spend more than \$900,000 in aid to other countries. Each food package will cost our country \$5000. Each medicine package will cost \$2000.</i></p>	<p style="text-align: center;">Country E</p> <p>Memo from your country’s Budget Committee:</p> <p><i>Luckily, our country has many medical supplies, so there is no limit to the number of medicine packets we can offer. However, due to the farming restrictions in our country, we are constrained to donating fewer than 250 food packages in order to feed our own people.</i></p>	<p style="text-align: center;">Special Assignment</p> <p>A special note from the Secretary General:</p> <p><i>Since your country is a member of the Emergency Fund Committee, I have a special job for you.</i></p> <p><i>We are expecting food shortages in the near future because of the severe drought in Sudan. Each country must give at least 100 food packages.</i></p>
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Inequality: _____

Inequality: _____

Inequality: _____

7.6 – Systems of Inequalities Homework Part 2

1. Suppose you have two jobs, babysitting for \$5 per hour and bagging groceries for \$6 per hour. You can work no more than 20 hours a week, but you need to earn at least \$90. Write a system of inequalities that describes the situation
2. In basketball you score 2 points for a field goal and 1 point for a free throw. Suppose that you have scored at least 3 points in every game this season, and have a season high score of 15 points in one game. Write a system of inequalities that describes the situation.
3. A clothing store has a going-out-of business sale. They are selling pants for \$10.99 and shirts for \$4.99. You can spend as much as \$45 and you need to buy at least one pair of pants. Write a system of inequalities that describes the situation.
4. Suppose you receive a \$50 gift card to Barnes and Noble. All CDs at the store cost \$9.99 and all books cost \$5.99. You want to buy at least 1 CD. Write a system of inequalities that describes the situation.
5. A seafood restaurant owner orders flounder for \$5/lb and salmon for \$8/lb. He wants to buy at least 50 pounds of fish but cannot spend more than \$180. Write a system of inequalities that describes the situation.
6. Using #6 from 6.5 Homework Part 2, graph EACH of the 6 inequalities by hand or using **desmos.com** (recommended) and decide on the number of food packages and medicine packages each country should give (ALL countries should give the same amount)