

Linear Inequalities in Two Variables

Finite Math

17 April 2017

Applications

Example

Define the variable and translate the sentence into an inequality:

- (a) The number of overtime hours is less than 20.*
- (b) Full-time status requires at least 12 credit hours.*

Applications

Example

*Define two variables and translate the sentence into an inequality:
Enrollment in finite mathematics plus enrollment in calculus is less than 300.*

Applications

Example

A food vendor at a rock concert sells hot dogs for \$4 and hamburgers for \$5. How many of these sandwiches must be sold to produce sales of at least \$1,000? Express the answer as a linear inequality and sketch its graph.

Now You Try It!

Example

Seed costs for a farmer are \$40 per acre for corn and \$32 per acre for soybeans. How many acres of each crop should the farmer plant if she wants to spend no more than \$5,000 on seed? Express the answer as a linear inequality and sketch its graph.

Applications

Example

A farmer wants to use two brands of fertilizer for his corn crop. Brand A contains 26% nitrogen, 3% phosphate, and 3% potash. Brand B contains 16% nitrogen, 8% phosphate, and 8% potash.

- (a) How many pounds of each brand of fertilizer should he add to each acre if he wants to add at least 120 pounds of nitrogen to each acre?*
- (b) How many pounds of each brand of fertilizer should he add to each acre if he wants to add at most 28 pounds of phosphate to each acre?*