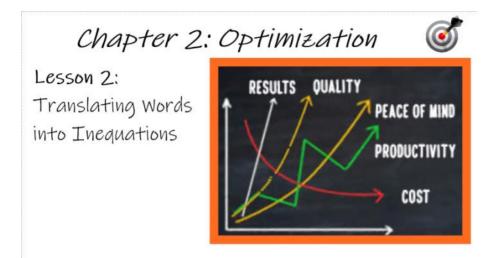
Lesson 2 Translating Words into Inequations

Date:



$$\begin{cases} 3x + 5y \le 13 \\ x > 2y - 3 \end{cases}$$

You will have to translate words into math so you need to understand the direction and the meaning of these symbols

Symbols: < less than, fewer than

- > greater than, more than, exceeds
- ≤ less than or equal to, at most, maximum of, no more than
- ≥ greater than or equal to, at least, minimum of, no less than

translate words into math using the variables Examples with two variables: Translate into inequalities 1) At a school dance, students paid \$3.00 and guests paid \$5.00. The proceeds were more than \$600.00. x = # of students 3x+5y >600 v = # of auests 2) At a high school, at least twice as many girls as boys take enriched science. more girls than boys x =# of girls XZ 24 v= # of boys 3) Mario recycles empty bottles. Small bottles are worth 10 cents and large ones, 40 cents. He never collects more than \$40.00. 10x+,40y =40 x = # of small bottles y = # of large bottles 4) John and Sheila are going to New York and Boston. They want to spend at least twice as much time in New York than Boston more time (hours)
spent in N.Y. than Boston x = time spent in New York y = time spent in Boston

These only involve EQUATIONS

Turning words into "math sentences"

The management of a tennis club wishes to hire personnel for its summer season. It wants to hire instructors and attendants. If x represents the number of instructors and y the number of attendants, translate each of the following constraints into a two-variable first degree equation.

a) The total number of people hired is equal to 8.

b) The number of instructors exceeds the number of attendants by 4.

c) There are three times as many instructors as attendants.

d) The number of instructors increased by twice the number of attendants is equal to 10.

e) The number of attendants is equal to one third the number of instructors decreased by 1.

write the math sentence for a) to f)

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You MUST define each of your variables before you write an equation:

Let x be the number of instructors

Let y be the number of attendants

answers:

The management of a tennis club wishes to hire personnel for its summer season. It wants to hire instructors and attendants. If x represents the number of instructors and y the number of attendants, translate each of the following constraints into a two-variable first degree equation.

- a) The total number of people hired is equal to 8. x + y = 8
- b) The number of instructors exceeds the number of attendants by 4. x = y + 4
- c) There are three times as many instructors as attendants. x = 3y
- d) The number of instructors increased by twice the number of attendants is equal to 10. x + 2y = 10
- e) The number of attendants is equal to one third the number of instructors decreased by 1. $y = \frac{1}{3}x 1$

You can now do:

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