

The Librarian's Dilemma

Margo is a librarian for the east branch of the Harrison City Library. Each year she adds new books, both fiction and nonfiction, to the library's collection. This year her budget limits her to no more than 75 new books. Library policy states that new fiction books can be no more than half the number of nonfiction books.

1. If x represents the number of nonfiction books and y represents the number of fiction books, write a system of inequalities that models Margo's situation.
2. Graph this system of inequalities.
3. What information is revealed in your graph?
4. What is the greatest number of fiction books that Margo can buy this year?

