Mixed operations word problems

A library has 3,489 non-fiction books, 8,617 fiction books and 1,240 reference books.

1. All books, except the reference books, are available for loan. How many books are available for loan?

2. Reference books are for use in the library. There are 16 bookshelves for the reference books. After use, they need to be returned to a special collection box for shelving. If 128 reference books are in use and 84 reference books are in the collection box, how many reference books are on the shelf?

3. Each patron pays an annual fee of $36 to the library. If the library collects $20,304 from the annual fee, how many patrons are there?

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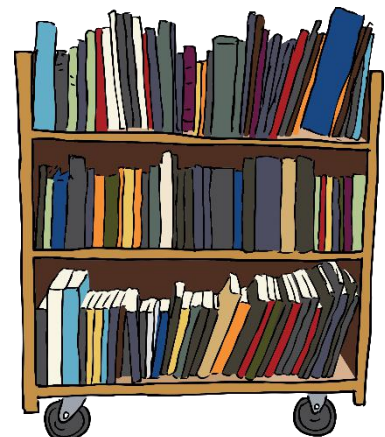
4. Each patron can borrow up to 6 books. If all the patrons are currently holding on to 6 books each, how many books are left in the library?

5. Each patron can borrow the books for 2 weeks and renew the loan twice. What is the maximum number of days can a patron keep the books he borrowed from the library?

6. Write an equation using "x" and then solve the equation. The late fee for each day is $2. A patron paid $72 for x books that are overdue for 9 days.

Answers

1. 3,489 + 8,617 = 12,106
    There are 12,106 books available for loan.

2. 1,240 − 128 − 84 = 1,028
    There are 1,028 reference books on the shelf.

3. 20,304 ÷ 36 = 564
    There are 564 patrons.

4. 3,489 + 8,617 + 1,240 − 564 x 6 = 9,962
    There are 9,962 books left in the library.

5. 2 x 3 x 7 = 42
    A patron can keep the books for 42 days.

6. $2(9x) = 72$
    $18x = 72$
    $x = 4$