

Answer on question #53328, Math / Other

Question In a supermarket cans of beans are on display. There is one can in the front row, 2 in the second, 3 in the third, 4 in the fourth and so on. (a) Find how many rows are needed to have at least 24 cans in total on display. (b) Show that there are no more than 12 cans in the first 4 rows.

Solution (a)

$$24 = 21 + 3 = (1 + 2 + 3 + 4 + 5 + 6) + 3$$

This means, we need 6 filled rows and 3 can in 7-th row. 7 rows are needed.

(b)

$$1 + 2 + 3 + 4 = 10 < 12$$

So, there are less than 12 cans in the first 4 rows.