

Weekly Question (21.05.13)

Margo and Nelly collected a total of 1920 stamps. Margo collected 308 fewer stamps than Nelly. Nelly bought 25% more stamps than Margo. In the end, Margo had 25% less stamps than Nelly.

- (a) How many stamps did Nelly have in the end?
- (b) Later, Nelly agreed to exchange 5 of her stamps with 2 of Margo's stamps every day. After how long, in weeks and days, would both of them have the same number of stamps?

Solution:

At first, Margo's stamps $\rightarrow \frac{1920-308}{2} = 806$; Nelly's stamps $\rightarrow 806 + 308 = 1114$

	<u>Margo</u>	:	<u>Nelly</u>	
At first	806	:	1114	
	+4 units	:	+5 units	$25\% = \frac{1}{4}$

In the end 3 : 4

$$\begin{aligned} 3 \times (1114 + 5 \text{ units}) &\rightarrow 4 \times (806 + 4 \text{ units}) \\ 3342 + 15 \text{ units} &\rightarrow 3224 + 16 \text{ units} \\ 1 \text{ unit} &\rightarrow 3342 - 3224 = 118 \end{aligned}$$

Nelly's stamps (in the end) $\rightarrow 1114 + 5 \times 118 = 1704$

(a) Ans: Nelly had 1704 stamps in the end.

Difference in the number of stamps $\rightarrow 1704 \div 4 = 426$

Number of days $\rightarrow 426 \div (3 + 3) = 71$ (10 weeks 1 day)

(b) Ans: Both of them would have the same number of stamps after 10 weeks 1 day.