

Question from Pranathi (17.05.2013)

In a bag, the ratio of the number of blue beads to yellow beads to white beads was 4 : 3 : 5. 25% of the blue beads were removed, and another 42 yellow beads were added. In the end, the percentage of the number of white beads became 20% of the total number of beads. How many beads were there in the bag at first?

Solution:

$$25\% = \frac{1}{4}$$

	<u>Blue</u>	: <u>Yellow</u>	: <u>White</u>
Before	4 units	: 3 units	: 5 units
	-1 unit	: +42	
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After	3 units	: 17 units	: 5 units
	20 units (80%)		

$$20\% = \frac{1}{5}$$

20% → 5 units (white beads)

80% → 20 units (blue and yellow beads)

$$3 \text{ units} + 42 \rightarrow 17 \text{ units}$$

$$14 \text{ units} \rightarrow 42$$

$$1 \text{ unit} \rightarrow 3$$

$$3 + 4 + 5 = 12 \text{ units}$$

$$12 \text{ units} \rightarrow 36$$

Ans: There were 36 beads in the bag at first.