

Weekly Question (21 Nov)

Abel and Ben have some chocolate bars.

If Abel eats 3 chocolate bars and Ben eats 2 chocolate bars each day, Abel will have 134 bars left when Ben had finished all his bars.

If Abel eats 2 chocolate bars and Ben eats 3 chocolate bars each day, Abel will have 209 bars left when Ben had finished all his bars.

How many chocolate bars has Abel?

Suggested Solution:

	<u>Abel</u>	<u>Ben</u>
Case 1	3 units + 134	2 units
	↕	↕
Case 2	2 parts + 209	3 parts

$$\begin{array}{l} 2 \text{ units} \rightarrow 3 \text{ parts} \\ 1 \text{ unit} \rightarrow 1.5 \text{ parts} \\ \text{x3} \rightarrow \\ 3 \text{ units} + 134 \rightarrow 2 \text{ parts} + 209 \\ 4.5 \text{ parts} + 134 \rightarrow 2 \text{ parts} + 209 \\ \\ 2.5 \text{ parts} \rightarrow 75 \\ 1 \text{ part} \rightarrow 30 \\ \\ 2 \text{ parts} + 209 \rightarrow 2 \times 30 + 209 = 269 \end{array}$$

Abel has **269** chocolate bars.

Alternative:

Ben's chocolate bars can be divided by 2 and 3. LCM of 2 and 3 is 6.
Ben → 6 units

In Case 1, ratio of number of chocolate bars eaten by Abel to Ben is 3 : 2.

<u>Abel</u>	:	<u>Ben</u>
3	:	2
9 units	:	6 units

Abel → 9 units + 134

In Case 2, ratio of number of chocolate bars eaten by Abel to Ben is 2 : 3.

<u>Abel</u>	:	<u>Ben</u>
2	:	3
4 units	:	6 units

Abel → 4 units + 209

9 units + 134 → 4 units + 209

5 units → 75

1 unit → 15

9 units + 134 → $15 \times 9 + 134 = 269$

Abel had **269** chocolate bars.