

### Question from Erika (07.08.13)

Popo and Bobo are aliens. There are a total of 40 Popo and Bobo. Popo has 4 legs and Bobo has 5 legs. They have a total of 175 legs. How many Bobo aliens are there?

### Solution:

Assume all are Popo aliens

$$40 \times 4 = 160 \text{ legs}$$

$$175 - 160 = 15 \text{ extra}$$

Difference in the number of legs between each Popo and each Bobo  $\rightarrow 5 - 4 = 1$

$$15 \div 1 = 15$$

**Ans: There are 15 Bobo aliens.**

### **Alternative**

Starting with 40 Popo aliens:

Subtracting 1 Popo alien and adding 1 Bobo alien results in 1 extra leg  $\rightarrow 160 + 1 = 161$

	Popo	Bobo	Number of Legs
-1	40	0	160
	39	1	161
-14	25	15	175

The table shows the process of adjusting the number of Popo and Bobo aliens to reach the total of 175 legs. It starts with 40 Popo aliens (0 Bobo) for a total of 160 legs. Subtracting 1 Popo and adding 1 Bobo increases the total to 161 legs. Repeating this process 14 more times (subtracting 14 Popo and adding 14 Bobo) results in 25 Popo and 15 Bobo aliens, totaling 175 legs.

**Ans: There are 15 Bobo aliens.**