

1. We know that there is a difference of 7 between the the two integers. Let the smaller integer be represented by n , so the larger integer will then be $(n + 7)$. We thus have:

$$\begin{aligned}n + (n + 7) &= 17 \\ \Rightarrow 2 \times n + 7 &= 17 \\ \Rightarrow 2 \times n &= 10 \\ \Rightarrow n &= 5\end{aligned}$$

Note that this gives us the value of the *lower* integer only! We need *both* integers!

So if the smaller number is 5, then the larger number must be 12.

2. We know that there is a difference of 4 between the the two integers. Let the smaller integer be represented by n , so the larger integer will then be $(n + 4)$. We thus have:

$$\begin{aligned}n + (n + 4) &= 12 \\ \Rightarrow 2 \times n + 4 &= 12 \\ \Rightarrow 2 \times n &= 8 \\ \Rightarrow n &= 4\end{aligned}$$

Note that this gives us the value of the *lower* integer only! We need *both* integers!

So if the smaller number is 4, then the larger number must be 8.

3. We know that there is a difference of 4 between the the two integers. Let the smaller integer be represented by n , so the larger integer will then be $(n + 4)$. We thus have:

$$\begin{aligned}n + (n + 4) &= 14 \\ \Rightarrow 2 \times n + 4 &= 14 \\ \Rightarrow 2 \times n &= 10 \\ \Rightarrow n &= 5\end{aligned}$$

Note that this gives us the value of the *lower* integer only! We need *both* integers!

So if the smaller number is 5, then the larger number must be 9.