

Weekly Question (3 Jan)

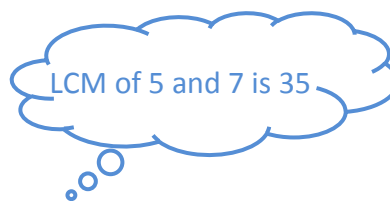
Gavin has **40% as much** money as Helen. Helen has **30% less** money than Ivan. If Ivan spends \$396, the amount of his money left will be **100% more** than Gavin's money. How much less money than Ivan does Gavin have?

Solution:

$40\% = \frac{2}{5}$ → Gavin has $\frac{2}{5}$ as much as Helen, so G : H = 2 : 5

Helen has **30% less** than Ivan → Helen: $100\% - 30\% = 70\%$, so H : I = 7 : 10

	Gavin	Helen	Ivan
Actual	$\frac{2}{5}$	$\frac{5}{7}$	$\frac{10}{7}$
	$\times 7$	$\times 7$	
	14	35	10
		$\times 5$	$\times 5$
		175	50
<hr/>			
	14u	35u	50u



IF after spending \$396, Ivan's money left is **100% more** than Gavin's money.

$100\% + 100\% = 200\%$

Ivan's money left is 200% of Gavin's money → **TWICE** as much as Gavin

$$\begin{aligned} 14u \times 2 &\rightarrow 28u \text{ (Ivan's money left)} \\ 50u - 28u &\rightarrow 22u \text{ (spendings)} \\ 22u &\rightarrow \$396 \\ 1u &\rightarrow \$18 \end{aligned}$$

Back to actual... Gavin → 14u, Ivan → 50u

$$\begin{aligned} 50u - 14u &\rightarrow 36u \\ 36u &\rightarrow 36 \times \$18 = \$648 \end{aligned}$$

Gavin has **\$648** less than Ivan.