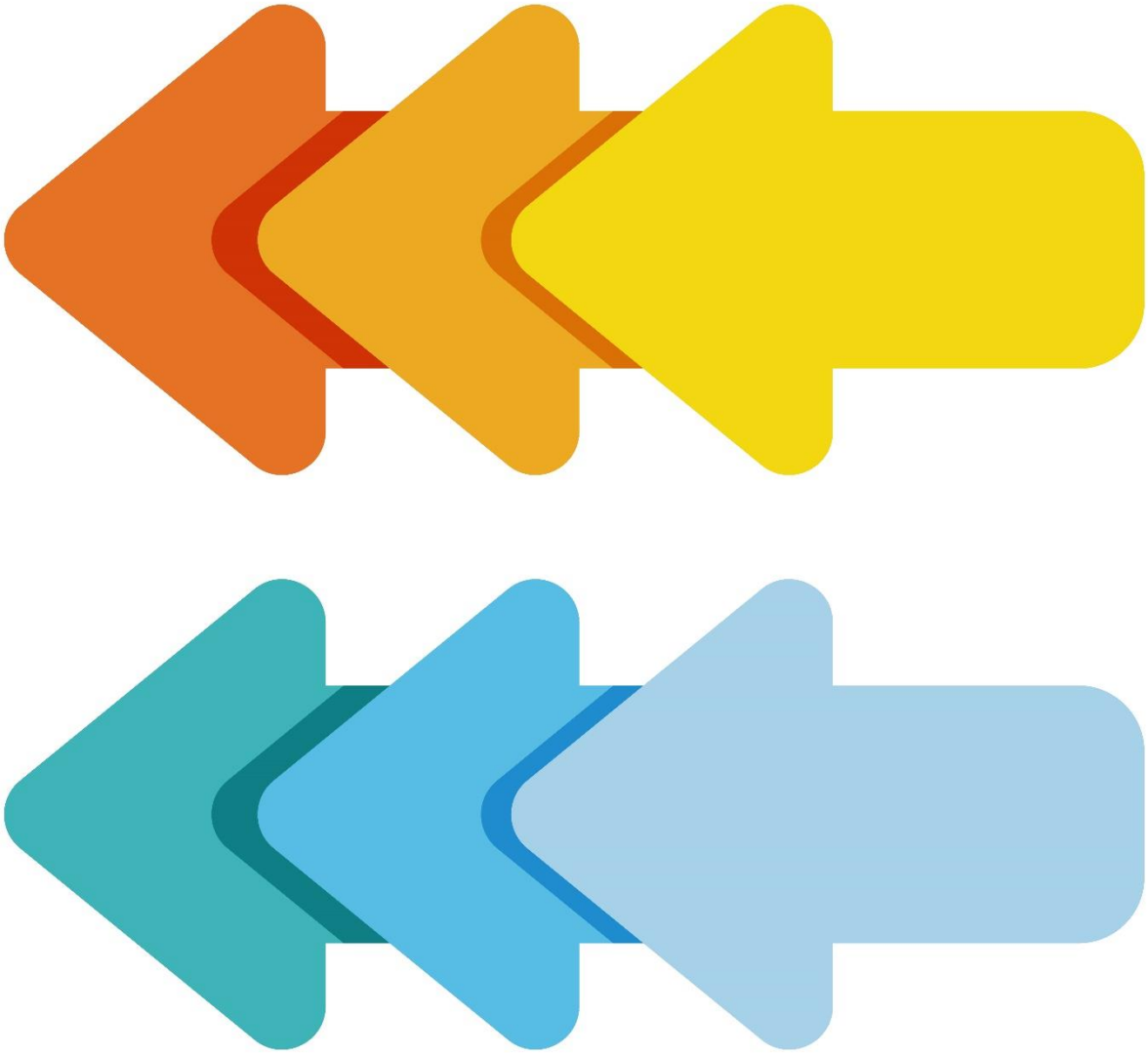
Working Backwards Questions



The objective of this math revision note is to enhance your child's understanding and proficiency in solving working backwards questions. These questions assess your child's capacity to imagine and visualise the scenario before the changes are implemented.

Question 1

A shuttle bus left the airport carrying some tourists with it.
At the first station, $\frac{1}{4}$ of the tourists in it alighted and 5 tourists boarded it.
At the second station, $\frac{1}{2}$ of the tourists in it alighted and 11 tourists boarded the bus.
When it left the second station, there were 30 tourists in it.
How many tourists were there in the bus when it left the airport?

Solutions

We can work backwards from the last piece of information.

Before it left the second station, 11 tourists boarded the bus to make it 30 tourists in total.

30 – 11 = 19

So, before the 11 tourists boarded the bus, there were 19 tourists.

These 19 tourists are the half that remained after half alighted at the second station.

19 x 2 = 38

So, before the bus arrived at the second station, there were 38 tourists in total.

After it left the first station, there were 38 tourists in the bus.

Before it left the first station, 5 tourists boarded the bus to make it 38 tourists in total.

38 – 5 = 33

So, before the 5 tourists boarded the bus, there were 33 tourists.

These 33 tourists are the three-quarter that remained after one-quarter alighted at the first station.

33 ÷ 3 x 4 = 44

So, at first there were 44 tourists in the shuttle bus when it left the airport.

Question 2

Ali and Ben had a total of 100 pebbles. Ali gave $\frac{2}{7}$ of his pebbles to Ben. Ben then gave $\frac{1}{6}$ of his pebbles to Ali. In the end, each of them had the same number of pebbles. How many pebbles did each of them have at first?

Solutions

Since this question shows us an internal transfer, the total remains the same.

100 ÷ 2 = 50

Each of them had 50 pebbles in the end.

These 50 pebbles were what remained with Ben after he gave one-sixth to Ali.

So, these 50 pebbles make up five-sixth of what Ben had.

50 ÷ 5 x 6 = 60

Ben had 60 pebbles before giving to Ali.

Total remained the same, so Ali had 40 pebbles before receiving from Ben.

100 – 60 = 40

These 40 pebbles were what remained with Ali after he gave two-seventh to Ben.

So, these 40 pebbles make up five-seventh of what Ali had at first.

40 ÷ 5 x 7 = 56

Ali had 56 pebbles at first.

Total remained the same, so Ben had 44 pebbles at first.

100 – 56 = 44

	Ali	Ben
Start	56	44
Ali → Ben	-16	+16
	40	60
Ben → Ali	+10	-10
End	50	50

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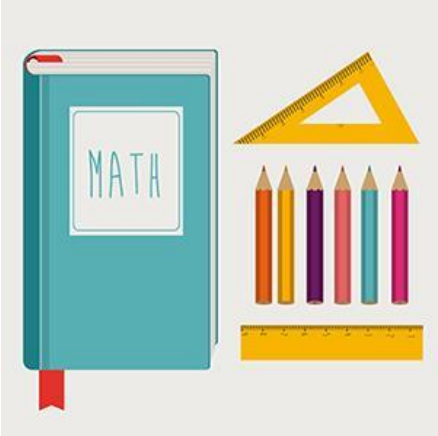

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