

A Maths Question, PSLE 2021

Kelly and Ivan had the same number of coins. Kelly had a number of 50-cent coins and 64 20-cent coins. These coins had a mass of 1.134 kg. Ivan had a number of 50-cent coins and 104 20-cent coins.

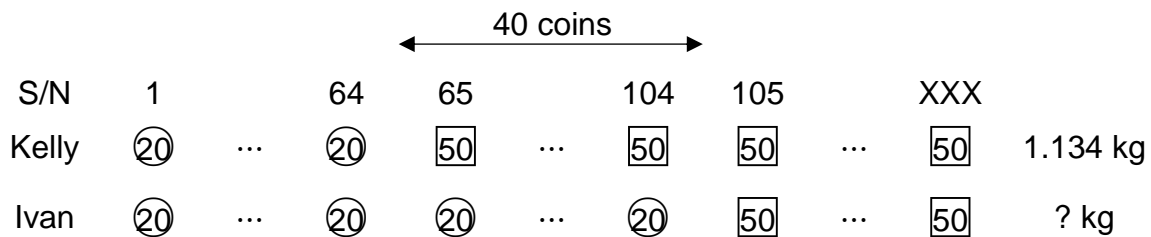
- (a) Who has more money in coins and by how much?
 (b) Given that each 50-cent coin is 2.7 g heavier than a 20-cent coin, what is the mass of Ivan's coins in kilograms?

<< Gathering Difference Maths >>

<Summary>

	Kelly ?		Ivan ?
50-cent coin	?		?
20-cent coin	64 coins		104 coins
Number of coins	1	:	1
Mass	1.134 kg		?

<Diagram>



<Writing>

- (a) The difference of value between them can be found from the 65th coins to the 104th coins as shown above.

$$104 - 64 = 40 \text{ (coins)}$$

$$50\text{¢} - 20\text{¢} = 30\text{¢}$$

$$40 \times \$0.30 = \$12.00$$

- (b) From a mass of Kelly's coins, subtract the difference of a mass of those 40 coins. It gives you the mass of Ivan's coins. Difference of each coin is 2.7 g.

$$2.7 \div 1000 = 0.0027 \text{ (kg)} \quad \rightarrow \text{unit conversion}$$

$$40 \times 0.0027 = 0.108 \text{ (kg)} \quad \rightarrow \text{Difference of the 40 coins}$$

$$1.134 - 0.108 = 1.026 \text{ (kg)} \quad \rightarrow \text{Mass of Ivan's coins}$$

Answer (a) Kelly has more than Ivan by \$12.00. (b) 1.026 kg