## Maths Mastery



## True or False?

Are these statements true or false? Explain your answer.

- All coins are silver.


## False: $1 p, 2 p, £ 1$ and $£ 2$ are not all silver.

- 20 p is worth the same as two $5 p$ coins.

False: $2 \times 5 p=10 p$.

- A 50p coin has the highest value of all the silver coins.

True: 50p is greater than 20p, 10p and 5p.

## Purse Puzzle

Gina feels two coins in her purse. One is small and circular. The other is
 large and has straight sides and corners.

What coins might be in her purse?
1p, 5p, 50p

Is there more than one possible pair?
Yes.

Write down all the possible combinations.
1 p and 50p or 5p and 50p
Answers

## What Coins Might She Get?



## True or False? <br> Explain your reasoning!

1. 



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True: $10 p+5 p=15 p, 3 \times 5 p=15 p$.
2.


False: $2 \times 2 p+5 p=9 p, 4 \times 2 p=8 p$.

3.


False: $10 p+2 \times 2 p=14 p, 2 \times 5 p+3 \times 1 p=13 p$.

## 10p Challenge

How many different ways can you make 10p by adding coins?

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\begin{aligned}
& 10 p, 2 \times 5 p, 5 p+5 \times 1 p, 5 p+2 p+3 \times 1 p, 5 p+2 \times 2 p+1 p, 2 p+8 \times 1 p, \\
& 2 \times 2 p+6 \times 1 p, 3 \times 2 p+4 \times 1 p, 4 \times 2 p+2 \times 1 p, 10 \times 1 p, 5 \times 2 p
\end{aligned}
$$

What is the smallest number of coins you can use to make 10p? Show your answer.

Smallest number of coins: one 10p coin.

What is the largest number of coins you can use to make 10p? Show your answer.

Largest number of coins: ten $1 p$ coins.

## Checking Change

Hamza buys bread for his mum. He is given two coins for his change - a copper coin and a silver coin. What combinations of coins could he get? Try and find them all. Show your working clearly.
$5 p+1 p, 5 p+2 p, 10 p+1 p, 10 p+2 p, 20 p+1 p, 20 p+2 p$, $50 p+1 p, 50 p+2 p$

## Solve It!

$$
\begin{aligned}
& 20 \mathrm{p}-0=0 \\
& 7 \mathrm{t}=\mathbf{1 4 p}=0
\end{aligned}
$$

## Note Trouble

Right or wrong? Don't forget to explain your answer

1. One note will always be worth more than 3 coins.

## Wrong: $3 \times £ 2$ is more than $£ 5$.

2. The smallest number of notes to make $£ 30$ is three. Wrong: $£ 20$ + $£ 10$ (two notes).
3. Mike has two notes in his pocket. Melissa has three notes. Melissa says she must have more money because she has three notes.

Wrong: $2 \times £ 10=£ 20$ which is more than $3 \times £ 5=£ 15$.

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