

# Mystery cards

Written by Liz Gibbs

*The Busy Lizzie Maths Library*

## Mystery cards

Shamim has a pack of cards numbered from 1 to 20.

He picks four different number cards.

- Exactly three of the four numbers are multiples of 5.
- Exactly three of the four numbers are even numbers.
- All four of the numbers add up to less than 40.



Write what the number could be?

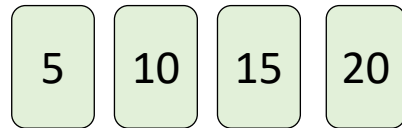
Explain how you solved this to a friend.

## Mystery cards

- Exactly three of the four numbers are multiples of 5.
- Exactly three of the four numbers are even numbers.
- All four of the numbers add up to less than 40.

You need digit cards 1 → 20

Take out all the multiples of 5.

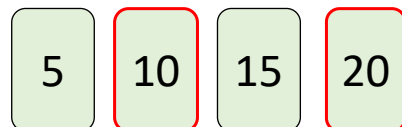


## Mystery cards

- Exactly three of the four numbers are multiples of 5.
- Exactly three of the four numbers are even numbers.
- All four of the numbers add up to less than 40.

Three of the four numbers are even.

I need to include 10 and 20 cards.

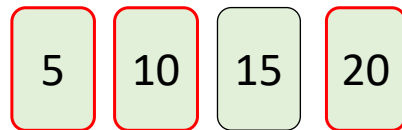


The total has to be less than 40

## Mystery cards

- Exactly three of the four numbers are multiples of 5.
- Exactly three of the four numbers are even numbers.
- All four of the numbers add up to less than 40.

I can't use 15 because the sum of 10, 15 and 20 is greater than 40.



I must use 5.

$$5 + 10 + 20 = 35$$

## Mystery cards

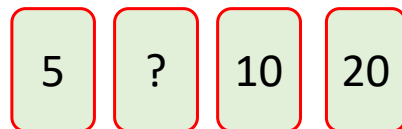
- Exactly three of the four numbers are multiples of 5.
- Exactly three of the four numbers are even numbers.
- All four of the numbers add up to less than 40.

$$5 + 10 + 20 = 35$$

10 and 20 are even numbers

5 is an odd number.

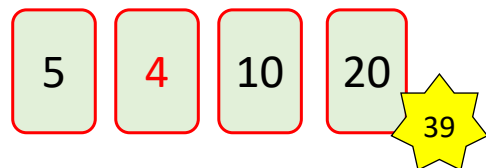
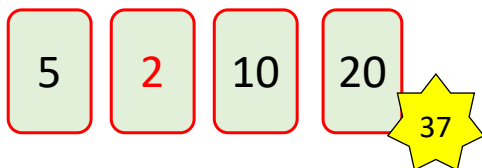
I need another even number.



## Mystery cards

- Exactly three of the four numbers are multiples of 5.
- Exactly three of the four numbers are even numbers.
- All four of the numbers add up to less than 40.

The last card could be 2 or 4. A number greater than this will make the overall total greater than 40. There are two possible answers.



© www.thebusylizzie.co.uk 2020

## Mystery cards

- Exactly three of the four numbers are multiples of 5.
- Exactly three of the four numbers are even numbers.
- All four of the numbers add up to less than 40.

How could you change the clues so that the solution has...

- only one answer?
- more answers?
- Create some mystery card problems of your own.

© www.thebusylizzie.co.uk 2020