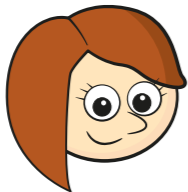# Recognise and identify prime numbers

**1 a)** Complete the sentence.

Prime numbers are positive integers that have exactly

_____ factors.

**b)**
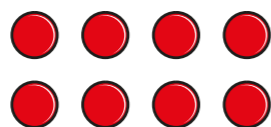
7 is a prime number.

Explain why Rosie is correct.

_____

_____

**c)** Aisha makes an array with 8 counters.

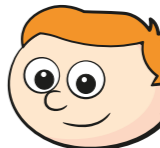Explain why this shows that 8 is not a prime number.

_____

_____

**2** Circle the prime numbers.

| 1 | 3 | 5 | 9 | 10 | 11 |
|---|---|---|---|----|----|
| 12 | 14 | 15 | 17 | 19 | 21 |

**3** Here is part of a hundred square.

| 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
|----|----|----|----|----|----|----|----|----|----|
| 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 |
| 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 |
| 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 |

**a)** Shade all the multiples of 2

Shade all the multiples of 3

Shade all the multiples of 5

Shade all the multiples of 7

**b)**

51 is a prime number.

Explain how you know Ron has made a mistake.

_____

_____

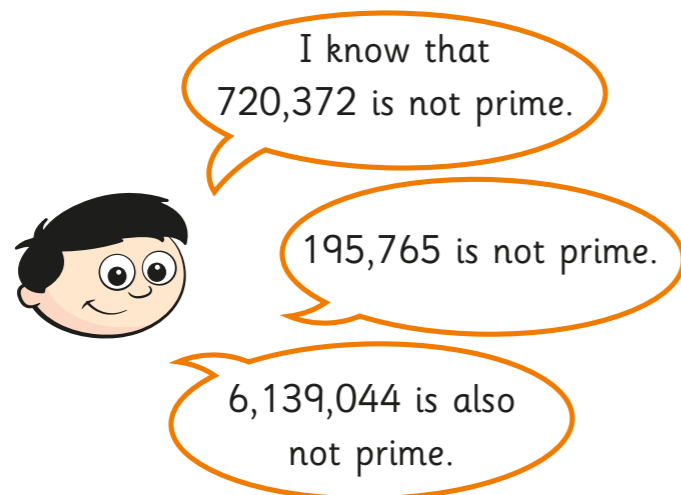**c)** Give a prime number between 50 and 60

**4** Scott rolls a fair dice numbered 1 to 6

What is the probability that it lands on a prime number?

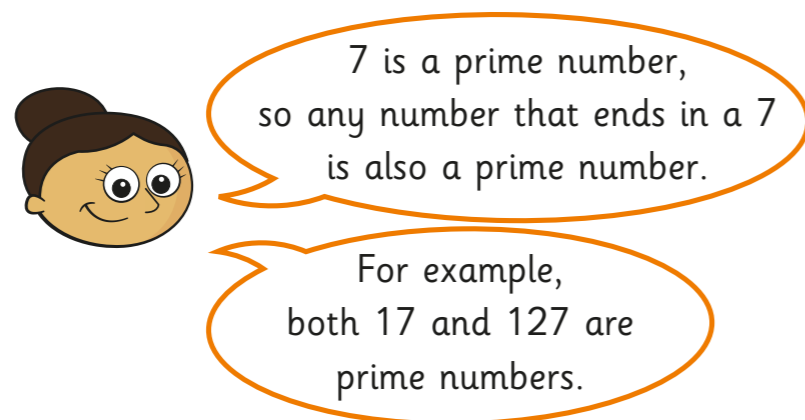**5** Dexter is working out whether some large numbers are prime numbers.

I know that 720,372 is not prime.

195,765 is not prime.

6,139,044 is also not prime.

For each number, explain why Dexter is correct.

720,372 is not prime because _____

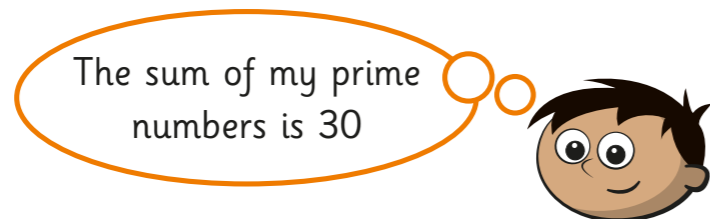195,765 is not prime because _____

6,139,044 is not prime because _____

**6**

7 is a prime number, so any number that ends in a 7 is also a prime number.

For example, both 17 and 127 are prime numbers.

Do you agree with Dora? _____
Explain your answer.
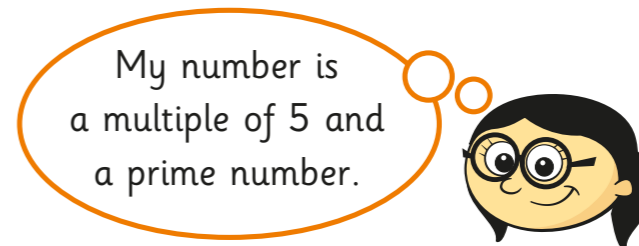
**7** **a)** Amir thinks of two prime numbers.

The sum of my prime numbers is 30

What two numbers is Amir thinking of? ☐ and ☐

Is there more than one possible solution?

**b)** Annie is thinking of a different number.

My number is a multiple of 5 and a prime number.

What number is Annie thinking of?

Is there more than one possible solution?

☐

**8** The number 13 is prime. If you reverse the digits, 31 is also prime.
List all the 2-digit primes with the same property.

_____

**9** Here are some digit cards.

☐ 2    ☐ 3    ☐ 5

List all the 3-digit prime numbers you can make with these cards.

Explain how you arrived at this answer.

_____

_____