In a plane flying to Edinburgh, five passengers are seated in a row next to each other.

Their professions are writer, guitarist, university lecturer, marine, architect;

And their nationalities , in any order are:

Welsh, Spanish, Austrian, Italian, Belgian.

Their ages are 22, 25, 33, 41, 53,

and each plays a different sport

dodgeball, diving, ping pong, javlin, rugby.

They will each travel from Edinburgh to a different destination

Leeds, Leicester, Manchester, Durham or Portsmouth.

Clue 1 The architect is seated on the extreme left.

Clue 2 The dodgeball player is seated in the middle

Clue 3 The Welshman is a writer

Clue 4 The guitarist is 22 years old

Clue 5 The university lecturer’s sport is swimming

Clue 6 The sailor is travelling to Portsmouth

Clue7 The dodgeball player is Spanish

Clue 8 The passenger from Belgium is bound for Leicester

Clue9 The passenger bound for Leeds is 33 years old

Clue 10 The javlin thrower is bound for Durham

Clue 11 The Spanish passenger is seated next to the Austrian

Clue 12 the 53 year old passenger is seated next to the passenger who is bound for Manchester

Clue 13 The 25 year old passenger is seated next to the passenger who is travelling to Leicester

Clue 14 The architect is seated next to the Italian.

How old is the marine?

What is the nationality of the rugby player?

Prime number quizz

1. The word ‘prime’ is an abbreviation for what?

Primary

Primitive

Priority

It is not an abbreviation

1. The number 24 has eight factors. Seven of the factors are 1,2,3,4,6,12 and 24. What is the missing factor?

5

8

10

14

1. Is the number 14 a prime number?

Yes

No

Only on a Wednesday

It depends which was you look at it

1. Which of these numbers is a prime number?

4

7

9

12

1. Is the number 1 a prime number?

Yes

No

Sometimes

Only in Australia

1. Which of these is not a prime number?

13

15

17

19

1. Which of these is a prime number?

33

35

37

39

1. What is the next prime number after 43?

44

45

46

47

1. Is there an easy way to work out which numbers are prime?

Yes

No

Sometimes

Only if you are a genius

1. What is the next prime number after 97?

98

99

100

101

**Prime factors**

Every number can be written as a product of prime numbers.

Remember: 'product' means 'times' or 'multiply'.

For example 40 = 2 x 2 x 2 x 5

126 = 2 x 3 x 3 x 7

28 = 2 x 2 x 7

**How do we write a number as a product of its prime factors?**

**Worked example**

Write 24 as a product of its prime factors.

There are lots of ways to solve this. Here are two:

**Solution 1**

Start with the smallest prime number that divides into 24, in this case 2. 2 divides into all even numbers, so we can write 24 as:

24 = 2 x 12

Now think of the smallest prime number that divides into 12. Again we can use 2, and write the 12 as 2 x 6, to give.

24 = 2 x 2 x 6

6 also divides by 2 (6 = 2 x 3), so we have:

24 = 2 x 2 x 2 x 3

2, 2, 2 and 3 are all prime numbers, so we have our answer.

In short, we would write the solution as:

24 = 2 x 12

= 2 x 2 x 6

= 2 x 2 x 2 x 3

**Solution 2**

We can also use a factor tree:

Plenary

What is a prime factor?

How many prime numbers are there between 0 and 100?

Write 72 as a product of it’s prime factors.

