

**Choose a challenge to complete. # Identify the type of question.**

Is it a reasoning question? asking you to give evidence or an explanation.

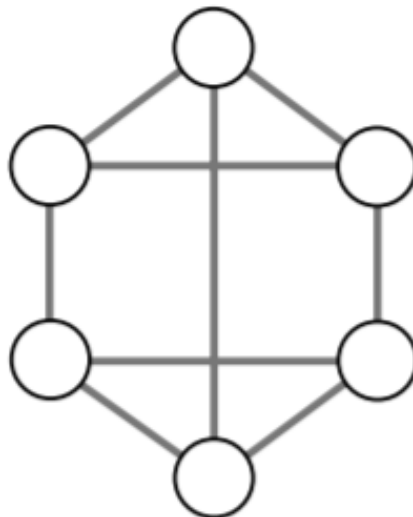
A problem-solving question? Asking you to find one answer.

Is it an investigation question? Asking you to find lots of possible answers and work in a logical way.

## Neighbours

Use each of the numbers 1 to 6 once.

Write one in each circle.



Numbers next to each other must not be joined.

For example, 3 must not be joined to 2 or 4.

**1 2 3 4 5 6**

# Spaceship



Some Tripods and Bipods flew from planet Zeno.  
There were at least two of each of them.

Tripods have 3 legs.  
Bipods have 2 legs.  
There were 23 legs altogether.

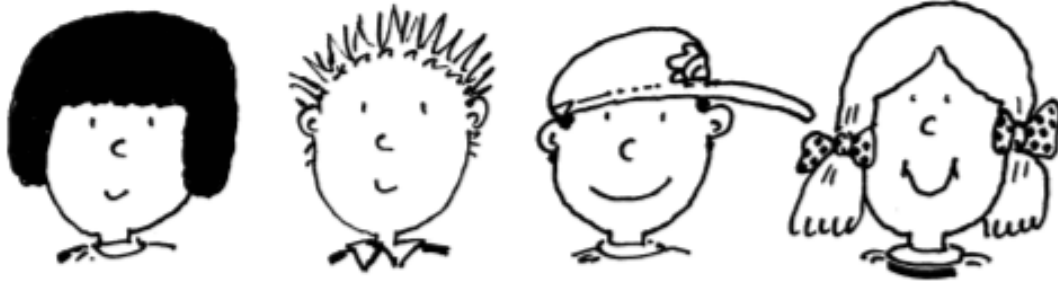
How many Tripods were there?  
How many Bipods?

Find two different answers.



## Nick-names

Dawn, Mark, Josh and Tina are friends.



They each have a nick-name.

Their nick-names are Spider, Curly, Ace and Fudgy, but not in that order.

What is the nick-name of each of the friends?

### Clues

- ◆ Josh plays tennis with Curly and goes swimming with Ace.
- ◆ Tina has been on holiday with Curly but travels to school with Fudgy.
- ◆ Spider, Curly and Dawn play in the football team.
- ◆ Spider sometimes goes to tea with Josh.

# Sandcastles

Lisa went on holiday.



In 5 days she made 80 sandcastles.

Each day she made 4 fewer castles than the day before.

How many castles did she make each day?

Lisa went on making 4 fewer castles each day.

How many castles did she make altogether?

## Dan the detective

1. Dan the detective looked for a number.  
He found a two-digit number less than 50.  
The sum of its digits was 12.  
Their difference was 4.  
What number did Dan find?



2. Dan found a two-digit odd number.  
One of its digits was half the other.  
The number was greater than 50.  
What number did Dan find?