

Lesson 10
Space Problem

Astronaut Rex and Astronaut Anthony have been sent on a space mission.

They have lots to do and many miles to travel. We need you to help them get to Space Station Z and back safely. You will need to use your mathematical brain to help them solve problems along the way.

Watch out for those pesky little green aliens who will try to wreck the mission.

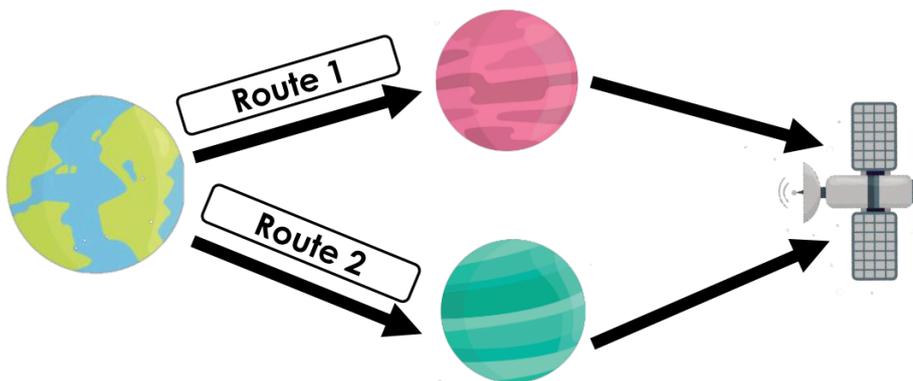
Rex and Anthony are on their way to Space Station Z. They need to get there but they are running out of fuel. They must take the shortest route to save fuel.

1. Work out the shortest route the astronauts need to take in order to reach Space Station Z to refuel.

Route 1

Earth to Mars = 3,454 miles

Mars to Space Station Z = 2,474 miles



Route 2

Earth to Jupiter = 2,456 miles

Jupiter to Space Station Z = 3,374 miles

Route 1 =

miles

Route 2 =

miles

The shortest route to take is
Route:

2. The astronauts have 5,915 miles worth of fuel in their rocket.

How much fuel will they have left over once they reach Space Station Z?

Well done!

You have managed to get the astronauts to Space Station Z without running out of fuel. Now the mission begins!

Anthony and Rex need to get their space suits and helmets on and take some readings from outside the station. They need to read the number on the solar sensor (This tracks the sun's energy on Earth all the way from space - super cool space stuff).

There is a problem!

Some of the numbers appear to have been damaged.

Those pesky aliens!

Work out the missing number so that Anthony and Rex can send the information back to Earth.

3. The last reading that was taken was 7,392. 4,536 is the new reading.

How much solar energy has been used?

$$\boxed{7,392} - \boxed{} = \boxed{4,536}$$

Good work team, you have worked out the new reading.

Now let's get back to the rocket.

The lock on the door seems to be stuck! "What's the problem?" Anthony asks Rex.

"I think the lock has been reset, who could have done that?" replies Rex.

"I have a sneaky feeling we have alien company!"

The astronauts need to reset the lock and they're going to need your help. The lock needs two special numbers.

4. We need to find two numbers that when added have an estimated answer of 5,800.

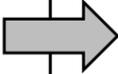
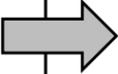
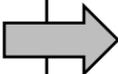
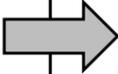
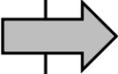
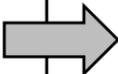
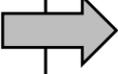
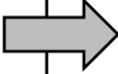
Original Number	Rounded to the nearest 100
3,367	
2,646	
4,015	
5,280	
3,906	
2,431	

The two original numbers are:

Awesome work, the door has opened. Now, let's get back to Earth.

Ok, team - so far so good! Let's get this rocket on the go. In order to start the engine, Pete needs your help.

5. The table needs completing so Pete can start the return to Earth:

Number	Subtract 10	Add 100	Subtract 1,000
3,986			
7,321			
5,210			

5... 4... 3... 2... 1... *Blast off!*

You did it! I knew you could.

Now buckle up those seat belts, it's home time.

One last challenge, before you go. Anthony has checked the fuel level, there are 4,653 miles left. The journey home is 3,827 miles. Anthony said that they will have 1,226 miles left in the tank when they return to Earth. Rex said that he is wrong. Work out who is right and how much fuel will be left in the tank.

Thank you for all your help today. Hope you enjoy your next mission.