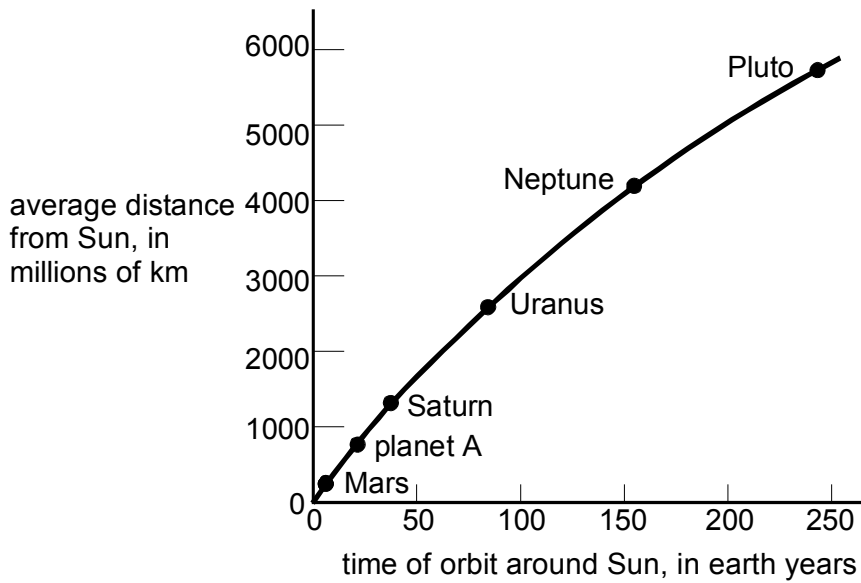


Level 5 questions

1. The graph below gives information about some of the planets in the Solar System.

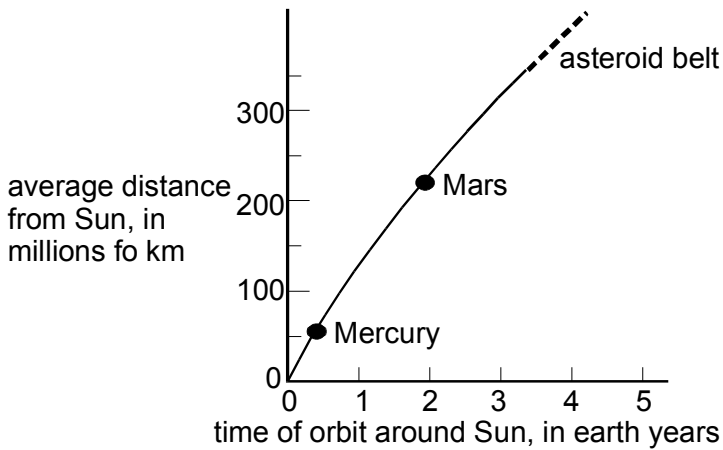


(a) Planet A is shown on the graph above. The orbit of planet A is between Saturn and Mars. What is the name of planet A?

.....

1 mark

(b) Part of the graph opposite is shown in more detail below.



(i) Use a dot (●) to mark the position of the Earth **carefully** on the graph above. Label the dot 'Earth'. Explain why you put the dot at this position.

.....

.....

2 marks

(ii) On the same graph, mark with a cross (X) the approximate position of Venus and label it 'Venus'.

1 mark

(c) Asteroids orbit the Sun just like the planets. Information about five asteroids is given in the table below.

name of asteroid	Eugenia	Hestia	Iris	Melpomene	Psyche
time of orbit in Earth years	4.49	4.01	5.51	3.48	5.00

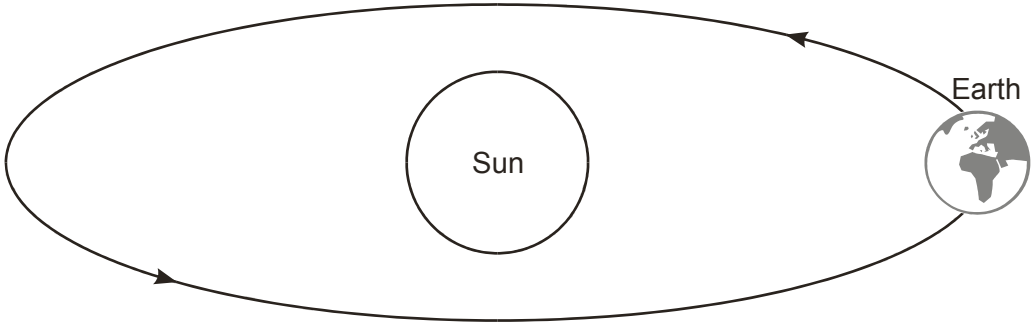
Which asteroid is the greatest distance from the Sun? Give the reason for your answer.

.....

1mark

Maximum 5 marks

2. The diagram shows the Earth in orbit around the Sun.



(a) (i) Give the name of **one** planet in the Solar System which is closer to the Sun than the Earth is.

.....

1mark

(ii) Give the name of **one** planet in the Solar System which is further away from the Sun than the Earth is.

.....

1 mark

(b) Night-time is when Britain is in the Earth's shadow. Daytime is when Britain is in sunlight. Explain why Britain has both day and night.

.....

1 mark

(c) (i) On the diagram, draw the position of the Earth nine months later than shown

1 mark

(ii) Explain why you have drawn the Earth in this position.

.....

1 mark

Maximum 5 marks

3. Satellites can sometimes be seen in the night sky. They look like stars slowly moving across the sky.

(a) We can see stars because they are light sources. They give out their own light. Satellites do not give out their own light. Explain why satellites can be seen in the clear night sky.

.....
.....
.....

2 marks

(b) Sometimes a satellite suddenly stops being visible. However, you can usually see it again in another part of the sky later the same night. This can happen when there are no clouds in the sky and the satellite is overhead.

Why does the satellite suddenly stop being visible?

.....
.....

1 mark

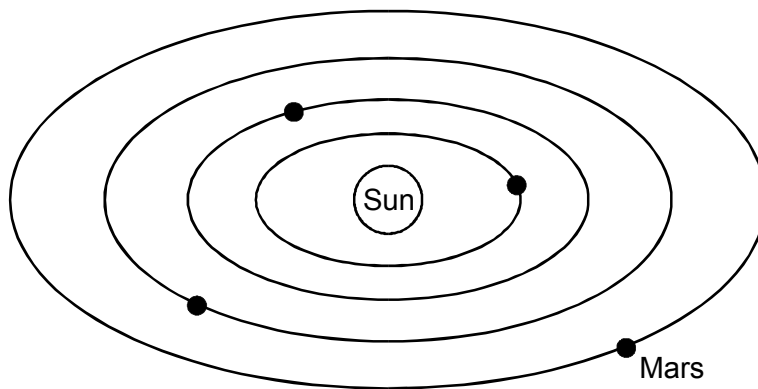
(c) Give one use of satellites in orbit around the Earth.

.....
.....

1 mark

Maximum 4 marks

4. Mars is the fourth planet from the Sun.



not to scale

(a) Name **one** planet which is closer than Mars to the Sun.

.....

1 mark

(b) A day and night on Mars lasts nearly 25 Earth hours. Explain why there is daytime and night-time on Mars.

.....
.....

1 mark

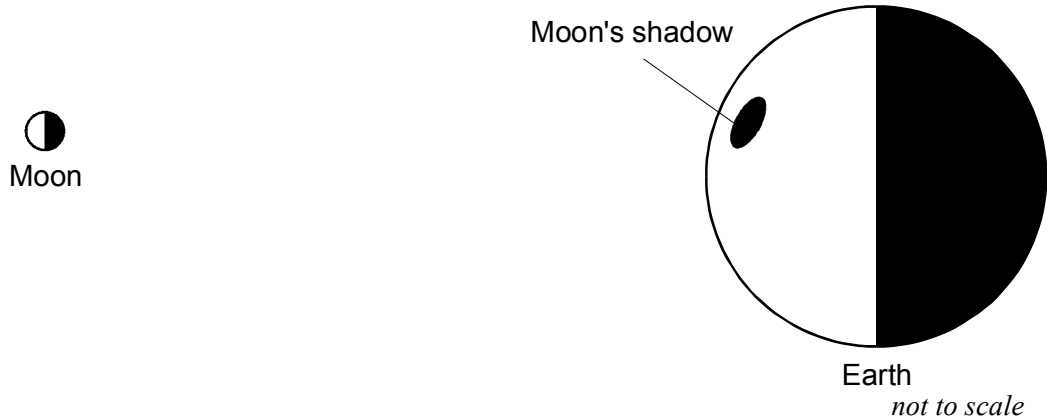
- (c) Like Earth, Mars has summers and winters.
Suggest why there are seasons on Mars.

.....
.....

1 mark
Maximum 3 marks

5. On 11th August 1999 there will be an eclipse. The shadow of the Moon will pass over part of the Earth.

- (a) The diagram below shows the Moon, the Moon's shadow and the Earth.



On the diagram, draw an arrow pointing towards where the Sun must be.

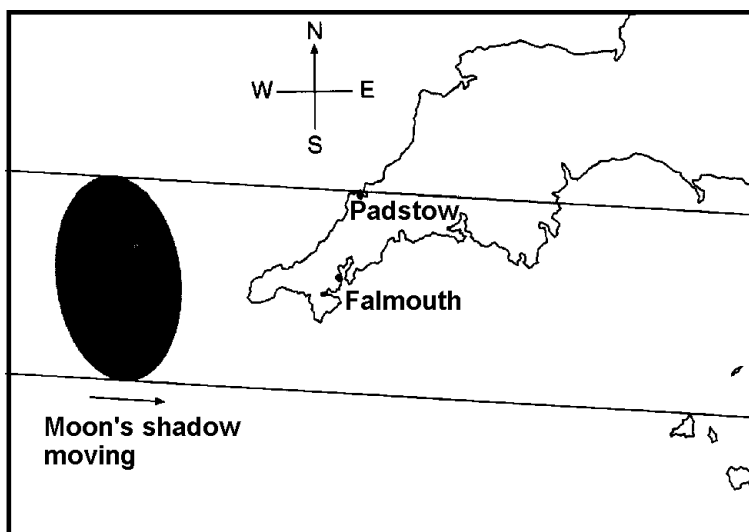
1 mark

- (b) At about midday the Moon's shadow will pass over Cornwall in England.
Where, in the sky, is the Sun at midday?
Tick the correct box.

- | | |
|-------------------|--------------------------|
| towards the North | <input type="checkbox"/> |
| towards the West | <input type="checkbox"/> |
| towards the East | <input type="checkbox"/> |
| towards the South | <input type="checkbox"/> |

1 mark

- (c) The map shows the shape of the Moon's shadow and the path it will take across Cornwall.



The Moon's shadow will take about 2 minutes to move across a house in Falmouth. It will take less than 2 minutes to move across a house in Padstow.

Explain why it will take less time for the Moon's shadow to move across a house in Padstow than to move across one in Falmouth.

.....
.....

1 mark

- (d) Why does the Moon's shadow move over the surface of the Earth?

.....
.....

1 mark
Maximum 4 marks

