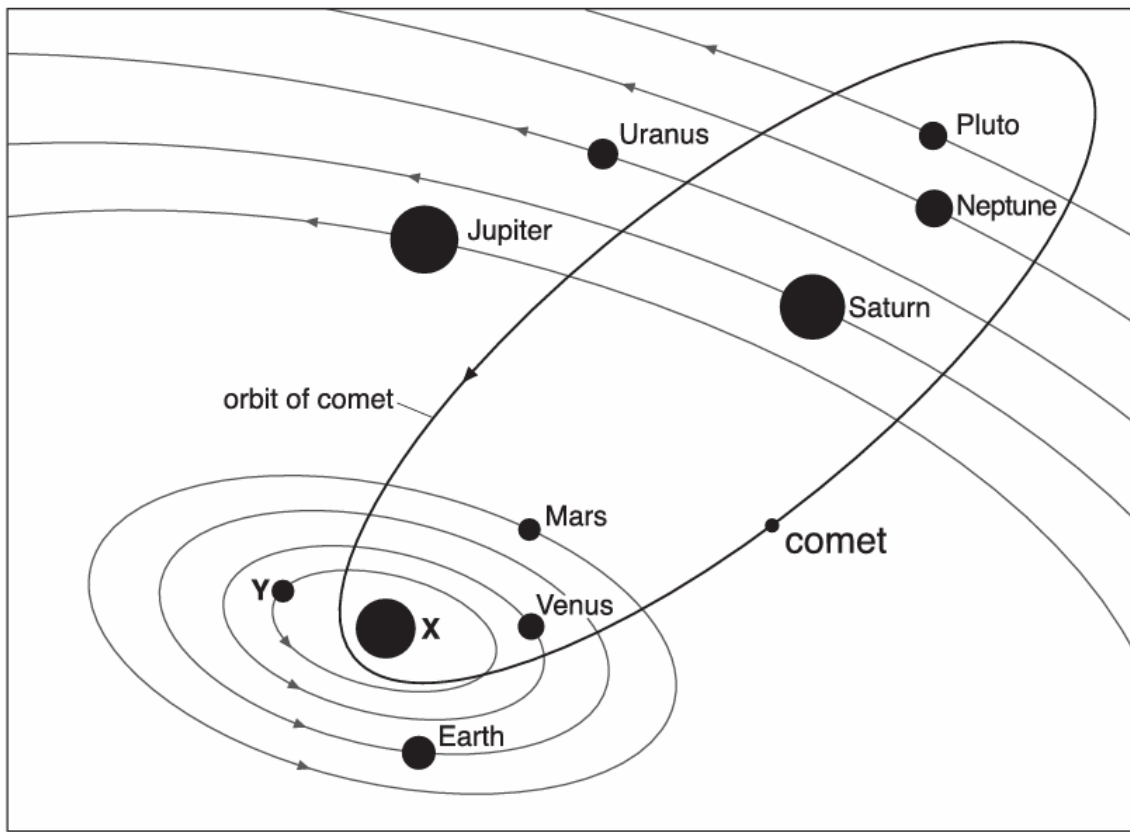


7. The diagram below shows part of the solar system.



*not to scale*

- (a) Look at the diagram.  
Give the names of X and Y.

X \_\_\_\_\_

Y \_\_\_\_\_

- (b) It takes Jupiter much longer than Mars to complete one orbit.  
Give **two** reasons for this.

1. \_\_\_\_\_

\_\_\_\_\_

2. \_\_\_\_\_

\_\_\_\_\_

- (c) The diagram opposite also shows the orbit of a comet.

In 1531, 1607 and 1683 scientists recorded that they had seen a comet in the sky.

- (i) Edmund Halley looked at these dates and suggested the scientists had all seen the same comet.

Explain how he worked out that it was the same comet each time.

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- (ii) The comet was last seen in 1986.

Predict when it will be seen next.

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Tier  
3–6  
5–7

Q No  
13  
5

Part

Mark

Answer

Accept

Additional guidance

**a**  
1/2m  
3/2e

1

any **one** from  
\* it absorbed water  
\* its mass **or** weight increased

accept 'it soaks up water'  
accept 'the mass **or** weight of the granite **or** marble did not increase **or** change'

'granite **or** marble did not change' is insufficient

**b i**  
3/2d

1

any **one** from  
\* it would crack  
\* it would crumble **or** break up

accept 'the grains would move apart'

**b ii**  
3/2d

1

\* weathering

accept 'freeze-thaw'  
accept 'erosion'

**c**  
3/3g

1

any **one** from  
\* granite would not react with acid rain  
  
\* marble reacts with acid rain

accept 'granite **or** it is not affected by acid rain **or** acid'  
accept 'granite would not erode **or** crumble **or** corrode'  
accept 'marble is affected by acid rain **or** rain'  
accept 'marble would erode'  
accept 'rain **or** pollution might have acid in it'

'granite does not react with air pollution' is insufficient  
  
*do not accept* 'it would erode'