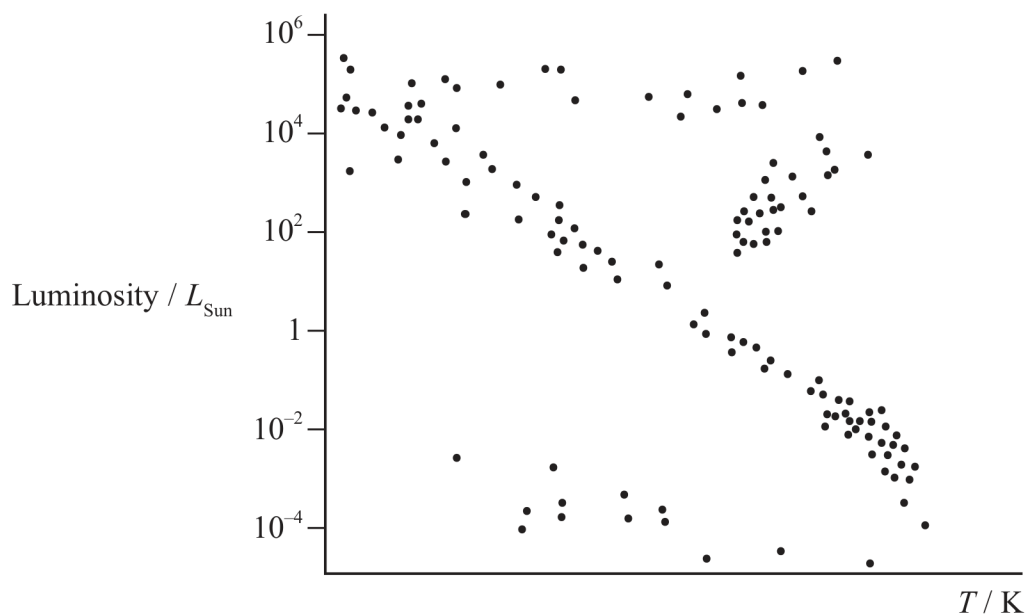


20 The Hertzsprung-Russell diagram for a star cluster is shown.



(a) Add a scale to the horizontal axis.

(2)

(b) Explain how this Hertzsprung-Russell diagram shows that the star cluster is not a young star cluster.

You should refer to groups of stars and their positions on this diagram.

(3)



- (c) In the early 20th century, Edwin Hubble observed the Andromeda Nebula. He saw stars similar to the stars in our galaxy.

One star he saw was a standard candle known as V1.

Describe how measurements of this standard candle could demonstrate that the Andromeda Nebula is **not** a nearby star cluster.

(4)

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(Total for Question 20 = 9 marks)