

Questions

Q1.

As part of his Personal Exercise Programme (PEP) Joe measures his heart rate to check on his fitness levels.

(a) The heart rate monitors in **Figure 5** show three different heart rate values. Re-order these heart rate values and plot a graph to show Joe's resting, working and recovery heart rate.

(2)

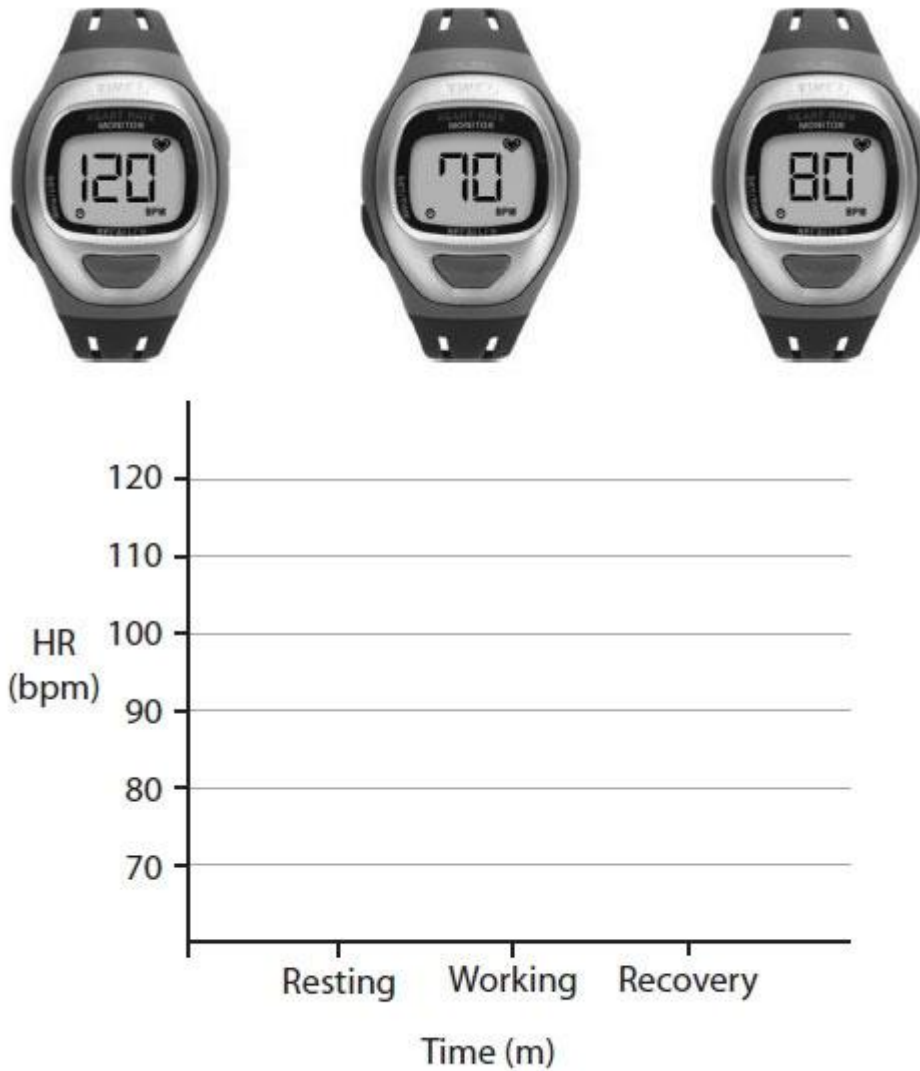


Figure 5

(b) Explain why you have plotted the values in this order.

I placed this value as working heart rate because

(1)

.....

I placed this value as recovery heart rate because

(1)

.....

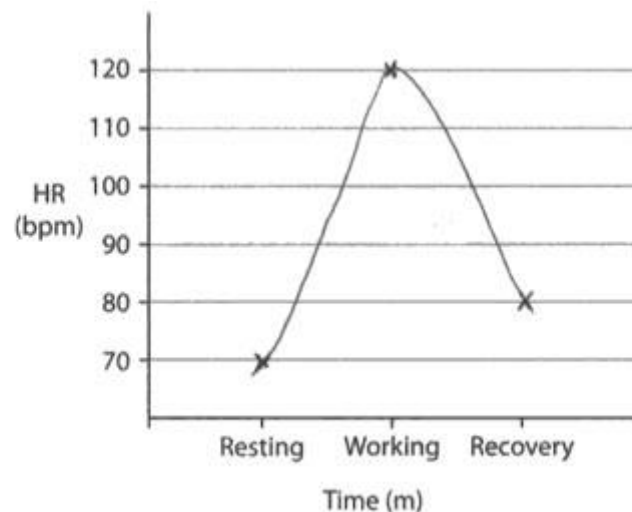
Examiner's Report

Q1.

Successful candidates plotted the value for recovery heart rate higher than resting heart rate to gain a mark and linked the values to create a line graph, however, many failed to achieve the second mark by either failing to plot the graph or using a bar chart rather than line graph.

The first part of this question was answered well, with most explaining that the working heart rate was the highest heart rate going on to state the correct reasoning for this. A smaller number of candidates referenced the need for increased oxygen transport and also gained credit.

Candidate explanations in relation to recovery rate were generally not so clear. Successful candidates stated that recovery rate was higher than resting whereas unsuccessful candidates did not make this clear.



Results Plus: Examiner Comments

This is a good answer. The candidate has clearly plotted the points and completed the graph to achieve both available marks for this part of the question. (2/2)

(b) Explain why you have plotted the values in this order.

I placed this value as working heart rate because

(1)

It is the highest of all 3, and when working there is more oxygen needed than normal.

I placed this value as recovery heart rate because

(1)

It is slightly higher than resting, as it has not completely re-paid oxygen debt, it's still recovering.

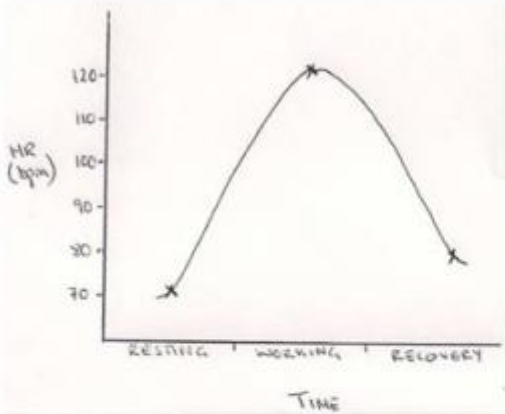
(Total for Question 5 = 4 marks)

Results Plus: Examiner Comments

A good response scoring 2/2 of the available marks for this part of the question. The first statement clearly identifies this is when the heart is working the hardest (they also reference oxygen but this was not necessary). In the second statement they make clear reference to the recovery heart rate being higher than resting heart rate.

Mark Scheme

Q1.

	Answer	Mark
(a)	<p>1. One mark for resting HR lower than recovery rate</p> <p>2. One mark for correct style (line graph) and shape as shown below</p>  <p>If bar chart / no line, can access point 1 but no access to point 2.</p> <p>DO NOT FORGET TO SCROLL DOWN FOR REST OF QUESTION.</p> <p style="text-align: right;">(2 × 1) (2)</p>	
(b)	<p>Working – highest value, (as heart has to work harder to supply more blood carrying oxygen to working muscles / heart beats faster when working)</p> <p>Recovery – higher than <u>resting</u> HR / as insufficient time to return to resting HR/not enough time to recover /repaying oxygen debt / equiv</p> <p style="text-align: right;">(2 × 1) (2)</p>	