

Centre Number						Candidate Number				
Surname										
Other Names										
Candidate Signature										

For Examiner's Use Total Task 1



General Certificate of Education
Advanced Subsidiary Examination
June 2012

Biology

BIO3X/PM1

Unit 3X AS Externally Marked Practical Assignment Task Sheet 1

To be completed before Task Sheet 2.

For submission by 15 May 2012

For this paper you must have:

- a ruler with millimetre measurements
- a calculator.

Task 1

Introduction

In this task you will investigate measuring pulse rate.

Materials

You are provided with

- a stopwatch or timer.

You may ask your teacher for any other apparatus you need.

Method

Read the following instructions carefully before you start your investigation.

1. Sit down for 5 minutes.
2. While you are sitting down, find the pulse in your wrist by putting the tip of your first finger on the inside of your wrist as shown in the photograph. If you cannot find your pulse, you may ask your teacher for help.



3. Take your pulse for 10 seconds and record the number of beats in the table.

Time interval over which pulse taken / s	Number of beats					Mean number of beats per trial	Standard deviation	Mean pulse rate / beats per minute
	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5			
10								
20								
30								
60								

4. Repeat step 3 four times so you have a total of five readings. Record the additional results in the table.
5. Repeat steps 3 and 4, this time take your pulse for 20 seconds, for 30 seconds and for 60 seconds. Record the results in the table.
6. Complete the table by writing in for each time interval
- the mean number of beats per trial
 - the standard deviation
 - the mean pulse rate.

(3 marks)

Turn over ►

Questions on Task 1

Answer **all** questions in the spaces provided.

1 You were told to sit down for 5 minutes before you took your pulse (step 1). This was so that you took your resting pulse. How could you find out if 5 minutes was long enough to give your resting pulse?

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(2 marks)

2 What information does standard deviation give about the measurements you took over a particular time interval?

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(2 marks)

3 In **Task 2**, you will measure pulse rate after a period of exercise. You are advised to measure the pulse for 20 seconds.

3 (a) Measuring pulse for much shorter than 20 seconds will give unreliable results. Suggest why.

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(2 marks)

3 (b) Measuring pulse for much longer than 20 seconds will give unreliable results. Suggest why.

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(2 marks)

END OF TASK 1