

1(a). Some diseases are multifactorial diseases. This means that many factors contribute to their cause. Cardiovascular disease is an example.

Age and gender are known risk factors for coronary heart disease.

The data in the table below shows the number of deaths from this disease in 2007 in the UK.

Age (years)	Number of deaths in males	Number of deaths in females
Under 35	129	27
35 – 44	783	183
45 – 54	2 679	578
55 – 64	6 687	1 779
65 – 74	11 335	4 987

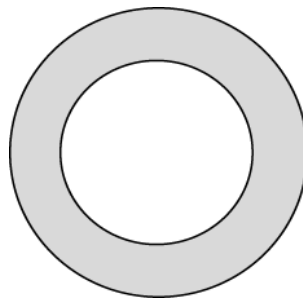
What can you conclude from the table about the effect of age and gender on the risk of death from cardiovascular disease?

[2]

(b).

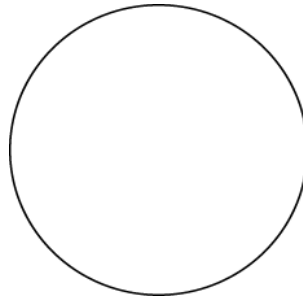
(i) Many factors increase the risk of developing cardiovascular disease.

When Richard was a young boy, a section through a coronary artery (that supplies blood to the heart muscle) looked like this:



Richard has eaten a high fat diet for many years.

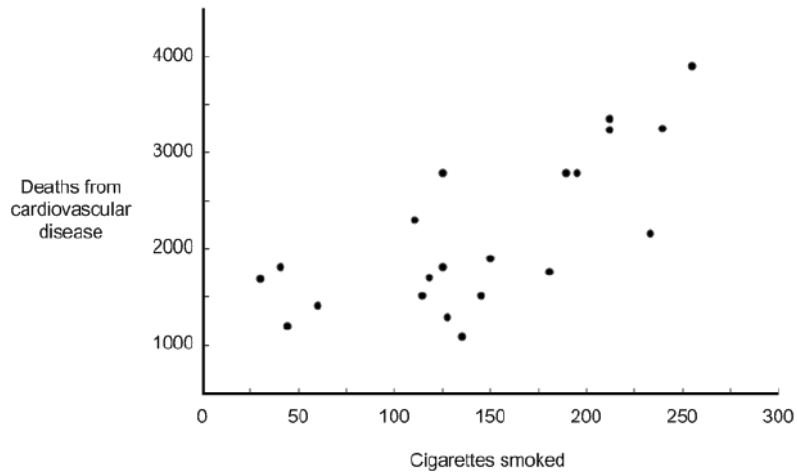
Complete the diagram below to show what Richard's coronary artery is likely to look like now:



[2]

(ii) Cigarette smoking can increase the risk of developing cardiovascular disease but does not necessarily lead to it.

Identify the type of correlation shown in the graph below.



[1]

(iii) Richard smoked 40 cigarettes a day and died of old age when he was 95 years old.

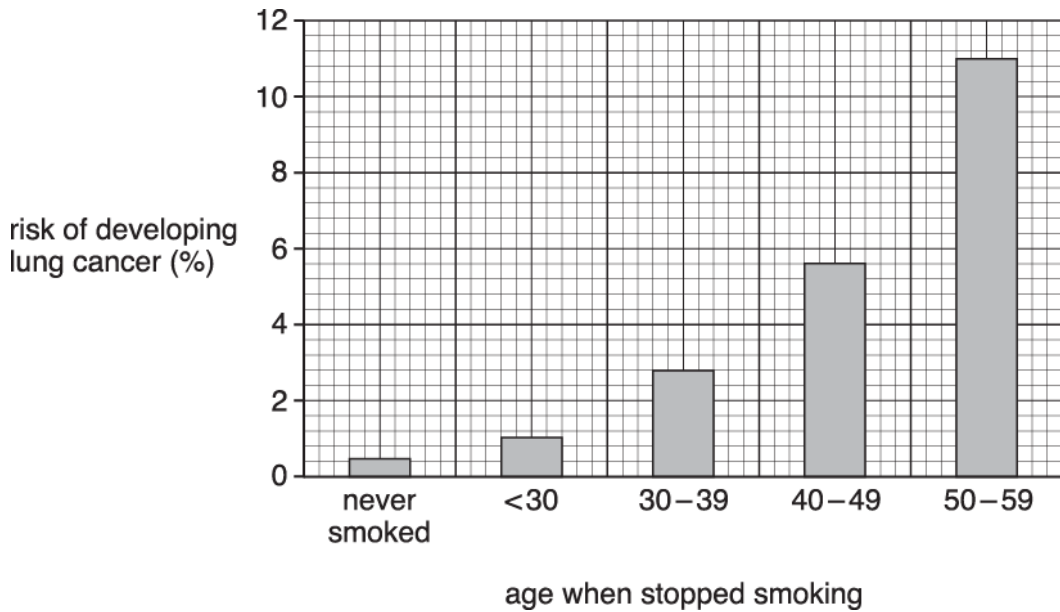
Explain why this cannot be used as convincing evidence of a correlation between the risk of smoking cigarettes and developing cardiovascular disease.

[2]

2(a). Smoking cigarettes increases the risk of developing lung cancer.

This risk can be reduced by stopping smoking.

The graph shows the risk of developing lung cancer in people who have never smoked and people who have stopped smoking.



Look at the graph.

(i) What does the number <30 on the horizontal axis mean?

----- [2]

(ii) Steve was 45 years old when he stopped smoking.

Write down his increase of percentage risk of developing lung cancer if he had waited until he was 55 years old.

increase of percentage risk = ----- % [2]

(iii) Write down **two** different conclusions that can be made from looking at the graph.

----- [2]

(iv) The graph does not show the age at which people started smoking.

Suggest why this information is important when making conclusions from the graph.

----- [2]

(b). Smoking is an example of an unhealthy lifestyle choice.

Write down **two** other examples of an unhealthy lifestyle choice.

Explain why each lifestyle choice may cause health problems.

Lifestyle choice 1 -----

Lifestyle choice 2 -----

[2]

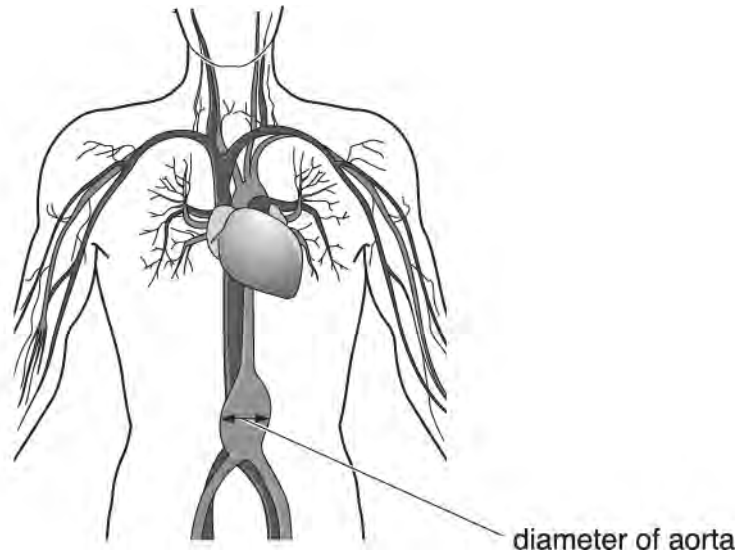
3. Swelling of the aorta is dangerous.

The swelling is called an aneurysm.

A swollen aorta can burst and usually results in death.

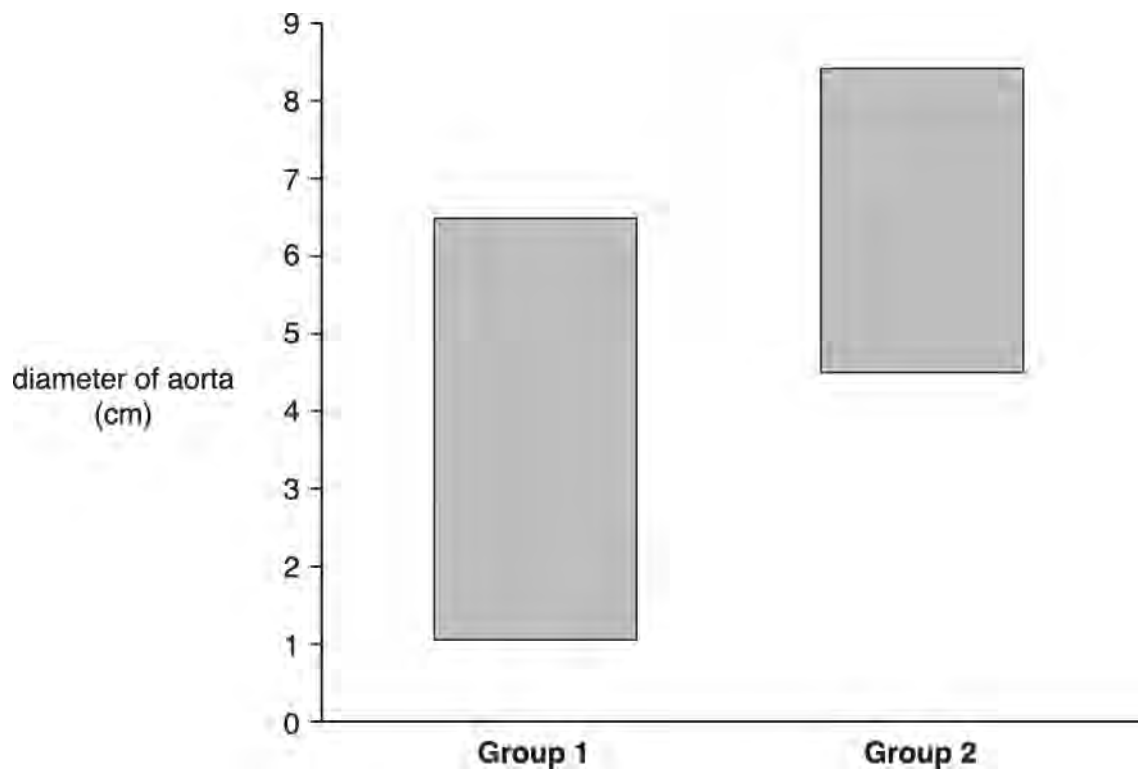
Men are screened to detect a dangerous swelling of the aorta.

The diameter of a healthy aorta is approximately 2 cm.



The diameter of the aorta was measured in two groups of men aged over 65.

The range of diameters of the aorta is shown in the graph for both groups.



It was decided to give the men in **Group 2** surgery to repair the aneurysm.
Men in **Group 1** were not given surgery.

Look at the diagram and graph on the opposite page.

Discuss the decision to give surgery to the men in **Group 2** but not to the men in **Group 1**. Use the data to support your answer.



The quality of written communication will be assessed in your answer.

[6]

4. Neil is worried that he might have too much body fat and be overweight.

Here are some facts about Neil:

- his age is 43
- his body fat is 29%
- his mass is 90 kg
- his height is 1.7 m

Look at the formula, table and body fat chart below.

$$\text{Body Mass Index (BMI)} = \frac{\text{body mass (kg)}}{[\text{height (m)}]^2}$$

BMI	Category
<19	underweight
19 – 24	healthy weight
25 – 29	overweight
30 – 40	obese
>40	very obese

BODY FAT % MEASUREMENT CHART FOR MEN

AGE	18–20	2.0	3.9	6.2	8.5	10.5	12.5	14.3	16.0	17.5	18.9	20.2	21.3	22.3	23.1	23.8	24.3	24.9
	21–25	2.5	4.9	7.3	9.5	11.6	13.6	15.4	17.0	18.6	20.0	21.3	22.3	23.3	24.2	24.9	25.4	25.8
	26–30	3.5	6.0	8.4	10.6	12.7	14.6	16.4	18.1	19.6	21.0	22.3	23.4	24.4	25.2	25.9	26.5	26.9
	31–35	4.5	7.1	9.4	11.7	13.7	15.7	17.5	19.2	20.7	22.1	23.4	24.5	25.5	26.3	27.0	27.5	28.0
	36–40	5.6	8.1	10.5	12.7	14.8	16.8	18.6	20.2	21.8	23.2	24.4	25.6	26.5	27.4	28.1	28.6	29.0
	41–45	6.7	9.2	11.5	13.8	15.9	17.8	19.6	21.3	22.8	24.7	25.5	26.6	27.6	28.4	29.1	29.7	30.1
	46–50	7.7	10.2	12.6	14.8	16.9	18.9	20.7	22.4	23.9	25.3	26.6	27.7	28.7	29.5	30.2	30.7	31.2
	51–55	8.8	11.3	13.7	15.9	18.0	20.0	21.8	23.4	25.0	26.4	27.6	28.7	29.7	30.6	31.2	31.8	32.2
	>55	9.9	12.4	14.7	17.0	19.1	21.0	22.8	24.5	26.0	27.4	28.7	29.8	30.8	31.6	32.3	32.9	33.3
		Lean				Ideal				Average				Above average				

Should Neil be worried?

Use the information on the opposite page to explain your conclusion and suggest what action Neil should take.



The quality of written communication will be assessed in your answer.

[6]

5(a). Nikita wants to improve her fitness level.

She is interviewed by her fitness trainer before she starts her exercise programme.

Describe the questions her fitness trainer should ask and explain their importance.



The quality of written communication will be assessed in your answer.

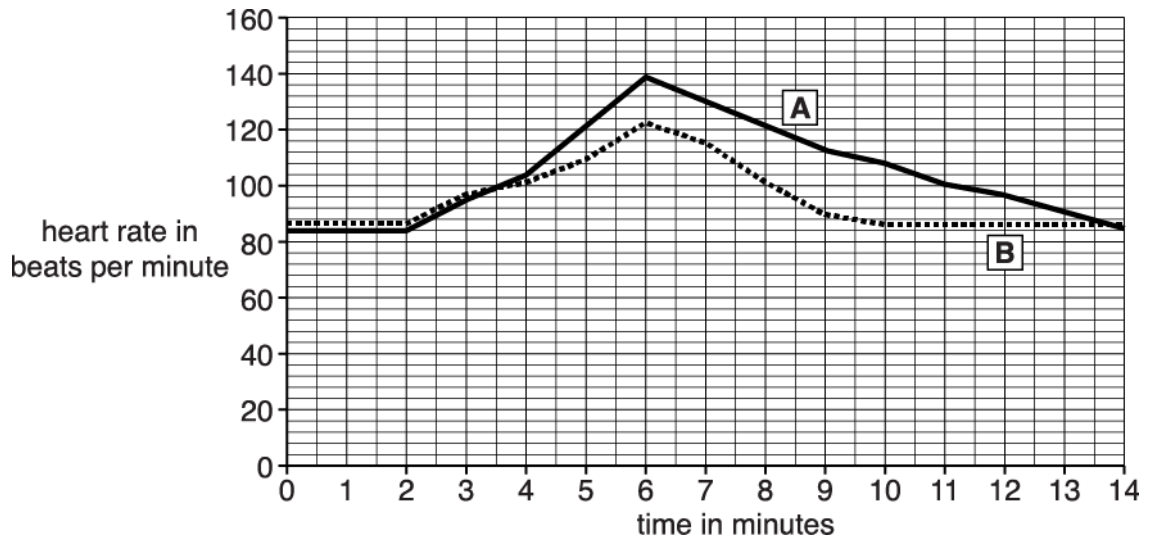
[6]

(b). Her trainer sets a fitness test for Nikita.

Nikita takes a short test at the start of her fitness programme and repeats the test three months later.

The graph shows her heart rate during these two tests.

One test is labelled A and the other B.



(i) On the graph draw

- a short arrow labelled X to show when Nikita starts to exercise.
- a short arrow labelled Z to show when Nikita stops exercising.

[1]

(ii) How long did Nikita exercise during each test?

----- min

[1]

(iii) Which test, A or B, shows data for Nikita three months after she started her exercise programme?

Test -----

Explanation -----

[2]

6(a). Robert is worrying about his blood pressure.

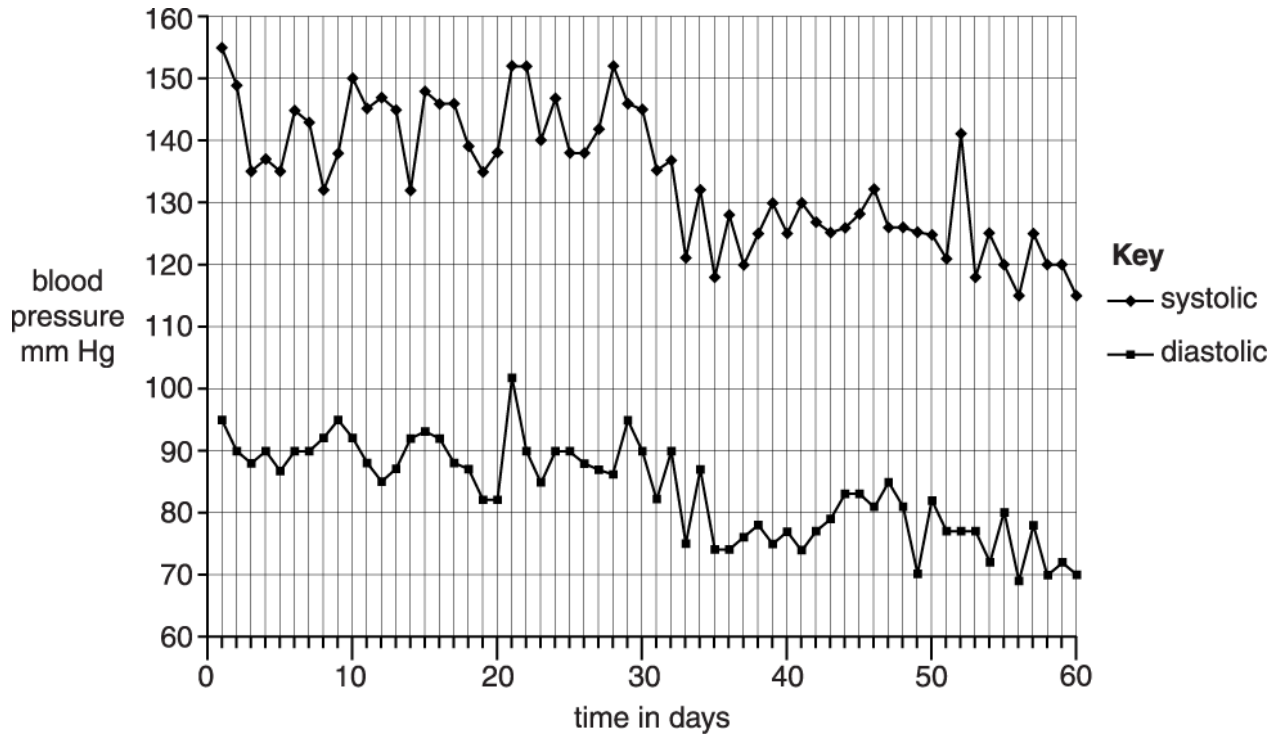
He decides to measure his blood pressure every day.

Blood pressure consists of two readings.

Systolic pressure is when the heart muscle is contracting.

Diastolic pressure is when the heart muscle is relaxing.

The graph shows Robert's blood pressure taken over sixty days.



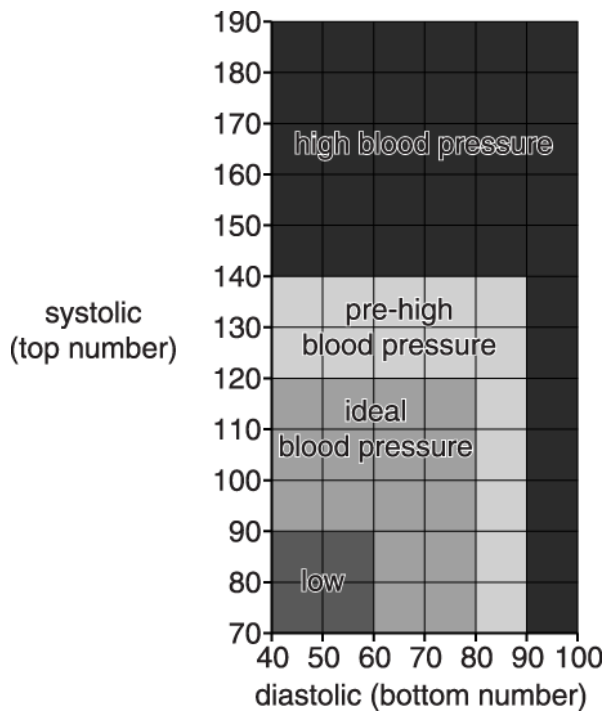
(i) Use the graph to find Robert's blood pressure readings on day 1.

systolic _____

diastolic _____

[1]

(ii) Robert looks at a chart about blood pressure readings.



Use this chart and your answer to part (i) to describe Robert's blood pressure on day 1.

Put a tick (✓) in the correct box.

	low	ideal	pre-high	high
Robert's blood pressure on day 1				

[1]

(b). At some point during the sixty days, Robert's doctor gave him some medicine to reduce his blood pressure.

On which day do you think that Robert started to take his medicine?

day [1]

(c). Robert's blood pressure changes from day to day.

Suggest one **other** reason why.

..... [1]

(d). Robert's average systolic blood pressure for the first seven days was 142.7 mm Hg.
The table shows his systolic blood pressure for the last seven days.

(i) Complete the table by calculating Robert's average (mean) systolic blood pressure readings for the last seven days.

Day	Robert's systolic blood pressure in mm Hg
54	125
55	120
56	115
57	125
58	120
59	120
60	115
mean	

[2]

(ii) Suggest why scientists often calculate the mean of a set of data.

----- [1]

(iii) Write down the range of systolic readings of Robert's blood pressure during the last seven days.

from ----- to -----

[1]

(iv) Use the data to provide evidence that the medicine reduced Robert's blood pressure.

----- [2]

7. Ian decides to join a running club.

At the first session, the instructor takes Ian's resting pulse rate.

The instructor wants to work out how much blood the heart pumps out in a minute.

This is called cardiac output.

He uses this formula.

$$\text{cardiac output} = \text{pulse rate} \times \text{volume of blood pumped out per heart beat}$$

The results for Ian and three other members of the running club are shown in the table.

Name	Resting pulse rate in beats per minute	Volume of blood pumped out per heart beat in cm^3	Cardiac output in cm^3 per minute
Alistair	80	75	6000
Byron	68	80	5440
Colin	71	70	4970
Ian	75	92	

(i) Complete the table by calculating Ian's cardiac output.

[1]

(ii) Write down the range of the cardiac output measurements for these members of the running club.

range = ----- to -----

[1]

(iii) The instructor says that resting pulse rate is a good indicator of the level of fitness.

The lower your resting pulse rate the fitter you are.

From the data, put the men in order of fitness from the least fit to the most fit.

least fit -----

most fit -----

[1]

(iv) The instructor thinks that the order of fitness may be incorrect.

Which **two** reasons, when taken together, explain why the order may be incorrect?

Put ticks (?) in the boxes next to the **two** most likely reasons.

- Ian has only just joined the running club.
- The measurements were only recorded once.
- A person's pulse rate may vary.
- Blood pressure measurements were not recorded.
- The men had different diets.

[2]

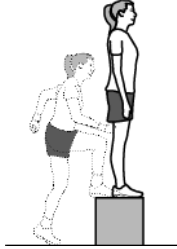
8(a). Jarinder wants to measure her fitness.

She does a fitness test.

She steps up and down on a box every two seconds for five minutes.

She then waits one minute after finishing the test and takes her pulse rate.

After a further one and two minutes she takes her pulse rate again.



These are her results.

	Pulse rate in beats per minute
1 minute after finishing test	114
2 minutes after finishing test	102
3 minutes after finishing test	90

Use this formula for calculating Jarinder's fitness number.

$$\text{fitness number} = \frac{30\,000}{2 \times (\text{pulse rate 1} + \text{pulse rate 2} + \text{pulse rate 3})}$$

Show your working.

fitness number =

[3]

(b). The table shows how a person's fitness number relates to their actual fitness.

Use this table to determine Jarinder's actual fitness.

	Fitness				
Gender	Excellent	Above average	Average	Below average	Poor
Male	more than 90	80–90	65–79	55–64	less than 55
Female	more than 86	76–86	61–75	50–60	less than 50

Jarinder's fitness is _____

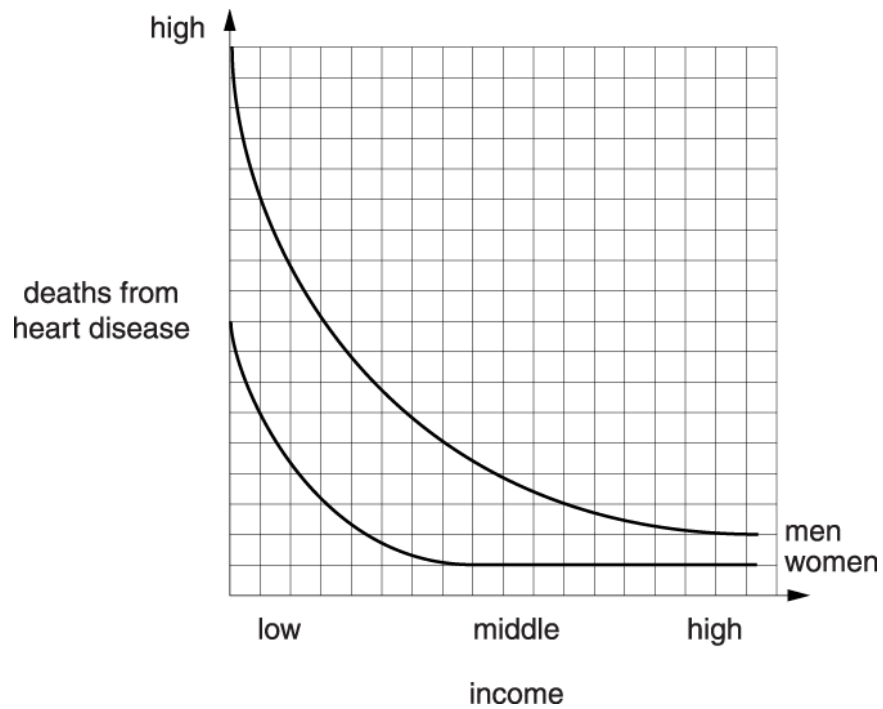
[1]

(c). Obtaining the fitness number and using the table may not precisely show how fit Jarinder is. Suggest reasons why.

[2]

9(a). A student examined this graph about heart disease.

It shows the deaths from heart disease in men and women, depending upon how much money they earned (income).



The student made the following conclusions.

Using **only** information from the graph, put ticks (✓) in the boxes next to the **three** correct conclusions.

With a very low income, women are certain to get heart disease.

In women, each time income is halved, the risk of heart disease is doubled.

Men are more at risk of heart disease than women.

With a high income, women are more at risk of heart disease than men.

There are other risk factors for heart disease apart from income.

No one with a high income gets heart disease.

For men, the lower the income the greater the risk of heart disease.

From middle to high income, the risk for women remains unchanged.

[3]

(b). Which **beginning**, A, B, C or D, and which **end**, 1, 2, 3 or 4, of a sentence, when put together, gives the best conclusion?

beginning	
A	An outcome exists between a factor and a correlation ...
B	The study needs to be repeated ...
C	Low income increases the risk of heart disease ...
D	The right decision is the one that leads to the best outcome ...

end	
1	... and proves the factor is a causal link.
2	... and this needs to be peer reviewed by other scientists.
3	... and includes the greatest number of people involved.
4	... but does not always lead to it.

answer _____ and _____ [2]

10. Diabetes and cardiovascular disease are common diseases in the UK.


Ben is a middle-aged man with type 2 diabetes.

He is worried because he has heard that having type 2 diabetes will mean he also gets cardiovascular disease.

What advice would you give to Ben?

[3]

END OF QUESTION PAPER

Question			Answer/Indicative content	Marks	Guidance
1	a		Risk of death increases with age ✓ Risk is always greater in males ✓	2	
	b	i	Content added to inside of blood vessel ✓ Artery wall of same thickness ✓	2	 <p>ALLOW 1 mark for a narrowed lumen with no indication of artery wall thickness</p>
		ii	Positive ✓	1	
		iii	Is an individual case ✓ Would need a lot of results to see a pattern or trend ✓	2	
Total				7	
2	a	i	Less than / before 30; (age) when stopped smoking	2	<p>Do not accept 30 (and under)</p> <p>Examiner's Comments</p> <p>Mathematical skills were disappointing. Many candidates mistakenly interpreted <30 as 30 or less and also failed to add 'when stopped smoking'.</p>
		ii	11 ? 5.6; 5.4	2	<p>5.4 alone = 2 marks</p> <p>Examiner's Comments</p> <p>Very few candidates were able to correctly calculate the increase in percentage of fat, most mistakes were due to incorrect reading of the scale.</p>
		iii	<p><i>Any two from:</i></p> <p>The younger you are when you stop the lower the risk / the older you are when you stop the higher the risk; Even if never smoked still have a risk / low(est) risk; Rate of increase of risk increases with age / doubles every ten years</p>	2	<p>accept positive correlation between age and risk for 1 mark</p> <p>Examiner's Comments</p> <p>Most candidates were able to state one correct conclusion relating to non-smokers still having a risk of developing cancer.</p>

Question			Answer/Indicative content	Marks	Guidance
		iv	(As) how long they have smoked....; increases, risk increases:	2	accept idea that it is uncertain how long they have been smoking. Trend must be identified for 2 nd mark e.g. Longer you smoke the bigger the risk ORA = 2 marks Examiner's Comments Once again many candidates were able to recognise that number of years smoking was important in coming to a conclusion.
	b		Food / intake idea eg Poor diet explained eg fat clogs arteries; Exercise idea eg Lack of exercise explained eg unfit ORA	2	accept recreational / illegal drugs and alcohol for Food idea accept any good explanation e.g. fat clogs arteries / salt raises blood pressure Examiner's Comments Most candidates exhibited good knowledge of the effects of unhealthy lifestyle choices.
			Total	10	

Question	Answer/Indicative content	Marks	Guidance
3	<p>[Level 3] Answer includes some indicative scientific points concerning BOTH group 1 and group 2 AND refers to difficulties regarding overlap of groups. Quality of written communication does not impede communication of the science at this level. (5 – 6 marks)</p> <p>[Level 2] Answer includes some indicative scientific points concerning BOTH group 1 and group 2. Quality of written communication partly impedes communication of the science at this level. (3 – 4 marks)</p> <p>[Level 1] Answer includes some correct indicative points concerning group 1 OR group 2. Quality of written communication impedes communication of the science at this level. (1 – 2 marks)</p> <p>[Level 0] Insufficient or irrelevant science. Answer not worthy of credit. (0 marks)</p>	6	<p>This question is targeted at grades up to C References to indicative scientific points concerning group 1 may include:</p> <ul style="list-style-type: none"> • Some men have a very healthy aorta • Some have an aneurism that may require surgery. • Reasons for not giving surgery could include ideas of benefits do not outweigh the risk of surgery. • Range in group 1 is 1.0 - 6.5cm <p>References to indicative scientific points concerning group 2 may include:</p> <ul style="list-style-type: none"> • All men in group have an aneurism • Surgery starts at about 4.5cm • Range in group 2 is 4.5 - 8.5cm <p>References to indicative scientific points concerning overlap of both groups may include:</p> <ul style="list-style-type: none"> • Idea of some men have surgery between 4.5cm and 6.5cm (group 2) others do not (group 1). • All men 6.5cm and above have surgery • Idea that they may have different risk factors e.g. BMI / smokers etc. <p>Use the L1, L2, L3 annotations in RM Assessor; do not use ticks.</p> <p>Examiner's Comments</p> <p>Unfortunately the success of previous extended writing questions did not continue with this question. Candidates found great difficulty interpreting the bar chart and connecting the data together. This resulted with poor scoring across the question.</p>
	Total	6	

Question	Answer/Indicative content	Marks	Guidance
4	<p>[Level 3] Includes some indicatives points from all three areas. Quality of written communication does not impede communication of the science at this level. (5 – 6 marks)</p> <p>[Level 2] Includes some indicative points from two areas. Quality of written communication partly impedes communication of the science at this level. (3 – 4 marks)</p> <p>[Level 1] Includes some indicative points from one area. Quality of written communication impedes communication of the science at this level. (1 – 2 marks)</p> <p>[Level 0] Insufficient or irrelevant science. Answer not worthy of credit. (0 marks)</p>	6	<p>This question is targeted at grades up to C</p> <p>Indicative scientific points referring to the tables may include:</p> <ul style="list-style-type: none"> • BMI = $90 / 2.89$ • = 31 • Needs to be 24 or below • Refers to 29% fat <p>Indicative scientific points concerning conclusions</p> <ul style="list-style-type: none"> • Neil is obese on BMI scale • Neil is above average on fat scale • Idea that BMI is not completely reliable <p>Indicative scientific points for action may include:</p> <ul style="list-style-type: none"> • Yes he should be concerned. • He should lose weight • Do more exercise • Improved diet <p>Use the L1, L2, L3 annotations in RM Assessor; do not use ticks.</p> <p>Examiner's Comments</p> <p>This extended writing question was well answered by the majority of candidates. Many candidates were able to calculate the BMI and interpret the data and go on to formulate conclusions and suggest suitable actions.</p>
	Total	6	

Question		Answer/Indicative content	Marks	Guidance
5	a	<p>[Level 3] Includes several questions and several reasons for asking them. Quality of written communication does not impede communication of the science at this level. (5–6 marks)</p> <p>[Level 2] Includes some questions and reasons for asking them. Quality of written communication partly impedes communication of the science at this level. (3–4 marks)</p> <p>[Level 1] Includes only question. Quality of written communication impedes communication of the science at this level. (1–2 marks)</p> <p>[Level 0] Insufficient or irrelevant science. Answer not worthy of credit. (0 marks)</p>	6	<p>This question is targeted up to grade E</p> <p>List of questions may include:</p> <ul style="list-style-type: none"> • any symptoms • current medication • alcohol consumption • tobacco consumption • level of physical activity • medical history / pregnant / injuries • family medical history • previous treatments • age • gender • BMI / mass / weight <p>Reasons for asking questions may include:</p> <ul style="list-style-type: none"> • to see if person is well enough to train • to prevent making any medical condition worse • to determine level of fitness • to produce an exercise plan / fitness regime • to avoid harm • to see if any other factors may affect the training plan <p>Use the L1, L2, L3 annotations in Scoris; do not use ticks.</p> <p>Examiner's Comments</p> <p>Candidates were able to identify a number of questions that should be asked by fitness trainers prior to starting an exercise programme but found difficulties explaining their importance. This limited the majority of candidates to level one and two answers.</p>

Question		Answer/Indicative content	Marks	Guidance
b	i		1	<p>Both correct for 1 mark</p> <p>Arrows / lines / labels within half a square</p> <p>Examiner's Comments</p> <p>This part was poorly answered with nearly half the candidates unable to interpret the data on the graph.</p>
	ii	4;	1	<p>ecf from b i</p> <p>Examiner's Comments</p> <p>The second part of the graph data interpretation question was better answered, error carried forward enabled many of the candidates to access this mark.</p>
	iii	B (does not score) Because it is lower Because it returns to normal quicker	2	<p>"A" scores zero marks</p> <p>Ignore 'less time to cool down'</p> <p>Examiner's Comments</p> <p>There was some confusion amongst candidates in this part of the question with many wrongly thinking that an improved fitness level would produce a higher heart rate</p>
Total			11	

Question			Answer/Indicative content	Marks	Guidance								
6	a	i	155 95;	1	Both required for the mark Units not required Examiner's Comments Candidates answered this part well, the majority being able to accurately interpret the scale on the graph.								
		ii	<table border="1"> <thead> <tr> <th>low</th> <th>ideal</th> <th>pre-high</th> <th>high</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td></td> <td>✓</td> </tr> </tbody> </table>	low	ideal	pre-high	high				✓	1	Examiner's Comments The majority of the candidates correctly interpreted the second chart, however some candidates used the diastolic value.
low	ideal	pre-high	high										
			✓										
	b		27 to 35;	1	Examiner's Comments The wide range of acceptable days ensured that most candidates could access this mark.								
	c		Idea of doing different activities / exercise / stress / salt / alcohol / smoking;	1	OWTTE Ignore medicine / diet / sugar Examiner's Comments There were a wide range of acceptable answers here, however a number of candidates failed to gain the mark by going down the diet route.								
	d	i	120 (2); 840 / 7;	2	120 = 2 marks Examiner's Comments There was a disappointingly high number of candidates who were unable to calculate a mean.								
		ii	Idea of best estimate of true / actual value; OR compare with other data / results / means;	1	Allow accurate value Ignore reference to outliers Ignore true results / accurate results Examiner's Comments The idea that the mean is the best estimate of the true value was known by very few candidates.								

Question			Answer/Indicative content	Marks	Guidance
		iii	115; 125;	1	Accept either way round Units not required Examiner's Comments This section was answered well, most candidates able to interpret the data in order to obtain the range.
		iv	<i>Idea that blood pressure (systolic) is lower</i> after answer to part b / between day 1 / 155 to day 60 / 115 / between start and end / between first 7 days / 142.7 and last 7 days / 120; Ref to diastolic pressure also dropped at same time;	2	ecf for day medicine taken Examiner's Comments This section proved to be quite difficult for a number of candidates as the data on multiple pages needed to be accessed in order to obtain the evidence.
			Total	10	

Question			Answer/Indicative content	Marks	Guidance										
7		i	6900	1	<p>mark answer in table as this is what is asked if no answer in the table, mark answer below question</p> <p>Examiner's Comments</p> <p>The majority of candidates were able to use the formula given to calculate the cardiac output. Those candidates that did not appear to use a calculator often got an incorrect answer.</p>										
		ii	range: 4970 to 6900	1	<p>allow ecf from bi allow 6900 to 4970</p> <p>Examiner's Comments</p> <p>A surprising number of candidates did not appear to know how to calculate the range for this data. Many answers were expressed with the higher number given first. Candidates should be reminded how to present the range. Examiners were instructed to use an error carried forward from part (i) to ensure candidates were not penalised for the same mistake twice.</p>										
		iii	Alistair Ian Colin Byron	1	<p>ignore numbers</p> <p>Examiner's Comments</p> <p>This question was generally well answered though some candidates failed to gain the mark due to a reversed order or the presentation of the pulse rates rather than the individuals names.</p>										
		iv	<table border="1"> <tr> <td>Ian has only just joined the running club</td> <td></td> </tr> <tr> <td>the measurements were only recorded once</td> <td>✓</td> </tr> <tr> <td>a person's pulse rate may vary</td> <td>✓</td> </tr> <tr> <td>blood pressure measurements were not recorded</td> <td></td> </tr> <tr> <td>the men all had different diets</td> <td></td> </tr> </table>	Ian has only just joined the running club		the measurements were only recorded once	✓	a person's pulse rate may vary	✓	blood pressure measurements were not recorded		the men all had different diets		2	<p>Examiner's Comments</p> <p>The majority of candidates correctly identified one or both reasons as to why the order of fitness presented could be incorrect.</p>
Ian has only just joined the running club															
the measurements were only recorded once	✓														
a person's pulse rate may vary	✓														
blood pressure measurements were not recorded															
the men all had different diets															
			Total	5											

Question		Answer/Indicative content	Marks	Guidance
8	a	306 (1) (306 x 2) 612 (1) 49 (1)	3	49 alone scores 3 marks ignore decimal places Examiner's Comments It was pleasing to see that many candidates knew how to expand the brackets in this question and gain all three marks.
	b	poor	1	ecf from (a) if value in (a) is between 0 and 200 Examiner's Comments Most candidates gained this mark; their skill of making a conclusion from interpreting the table was generally good.
	c	any two from: measuring results will vary / inaccurate; idea that fitness score is in ranges and not a continuous score; other factors such as BMI / mass / weight / age / (short term) injury	2	Examiner's Comments Candidates rarely considered the idea that measuring pulse rates could cause problems or the idea that fitness was measured in ranges. Many candidates managed to suggest another suitable factor.
		Total	6	

Question		Answer/Indicative content	Marks	Guidance																
9	a	<table border="1"> <tr> <td>With a very low income, women are certain to get heart disease.</td> <td></td> </tr> <tr> <td>In women, each time income is halved, the risk of heart disease is doubled.</td> <td></td> </tr> <tr> <td>Men are more at risk of heart disease than women.</td> <td>✓</td> </tr> <tr> <td>With a high income, women are more at risk of heart disease than men.</td> <td></td> </tr> <tr> <td>There are other risk factors for heart disease apart from income.</td> <td></td> </tr> <tr> <td>No one at high income gets heart disease.</td> <td></td> </tr> <tr> <td>For men, the lower the income the greater the risk of heart disease.</td> <td>✓</td> </tr> <tr> <td>From middle to high income, the risk for women remains unchanged.</td> <td>✓</td> </tr> </table>	With a very low income, women are certain to get heart disease.		In women, each time income is halved, the risk of heart disease is doubled.		Men are more at risk of heart disease than women.	✓	With a high income, women are more at risk of heart disease than men.		There are other risk factors for heart disease apart from income.		No one at high income gets heart disease.		For men, the lower the income the greater the risk of heart disease.	✓	From middle to high income, the risk for women remains unchanged.	✓	3	<p>if more than three boxes are ticked deduct one mark for each additional tick</p> <p>Examiner's Comments</p> <p>This question required candidates to use the graph about heart disease to draw conclusions. Over half of the candidates knew at least 2 of the correct conclusions and stronger candidates knew all 3.</p>
With a very low income, women are certain to get heart disease.																				
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From middle to high income, the risk for women remains unchanged.	✓																			
	b	C; 4	2	<p>accept any unambiguous indications using lines on table</p> <p>Examiner's Comments</p> <p>This question was testing candidate's knowledge that correlation does not always prove causation in relation to the data given. Most candidates scoring 1 mark usually scored this for the beginning of the sentence "C".</p>																
		Total	5																	

Question	Answer/Indicative content	Marks	Guidance
10	<p>Any three from:</p> <p>having (type 2) diabetes increases his risk of cardiovascular disease / does not make it certain ✓</p> <p>example of lifestyle change to decrease his risk (of getting cardiovascular disease) ✓</p> <p>second example of lifestyle change to decrease his risk (of getting cardiovascular disease) ✓</p> <p>control/treat diabetes to reduce risk of developing cardiovascular disease ✓</p> <p>visit the doctor / get medical advice ✓</p>	3 (AO 2.1 × 3)	<p>ALLOW examples including, e.g. stop smoking / (more) exercise / low salt diet / low fat diet / take medication to reduce blood pressure / lower BMI</p> <p>DO NOT ALLOW “eat healthy/go on a diet” unless explained</p> <p>ALLOW idea of low sugar diet (to control diabetes)</p> <p><u>Examiner’s Comments</u></p> <p>This question gave candidates the opportunity to demonstrate their knowledge of risk factors for cardiovascular disease (CVD). Many good responses focussed on aspects of lifestyle that would affect the risk of CVD. High-scoring responses were specific about lifestyle changes that would reduce the risk of CVD (e.g. reduce salt/fat in the diet, stop smoking, exercise more), while responses that relied on vague, catch-all advice (e.g. stay healthy, eat healthily, go on a diet) were not credited marks. The idea that having type 2 diabetes increases the risk of CVD but does not make it certain, was rarely seen.</p>
	Total	3	