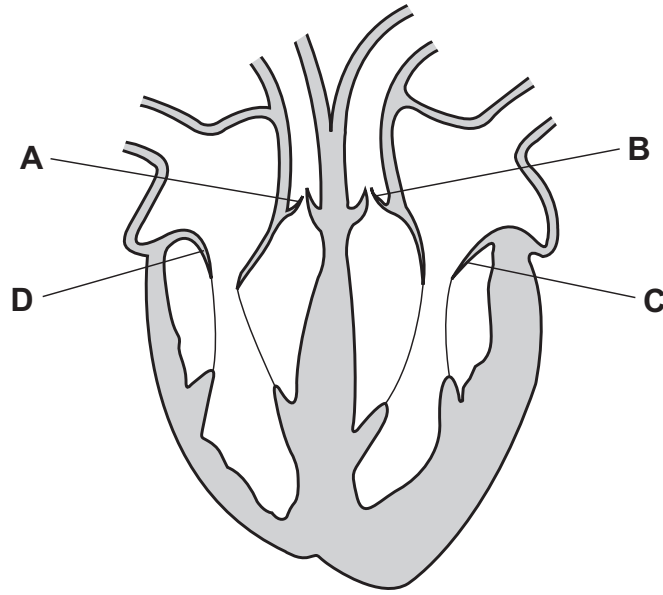


**16** The diagram shows a section through a human heart.

Which structure is an atrioventricular valve in the right side of the heart?



- 4 Fig. 4.1 shows a section through a human heart and the main blood vessels.

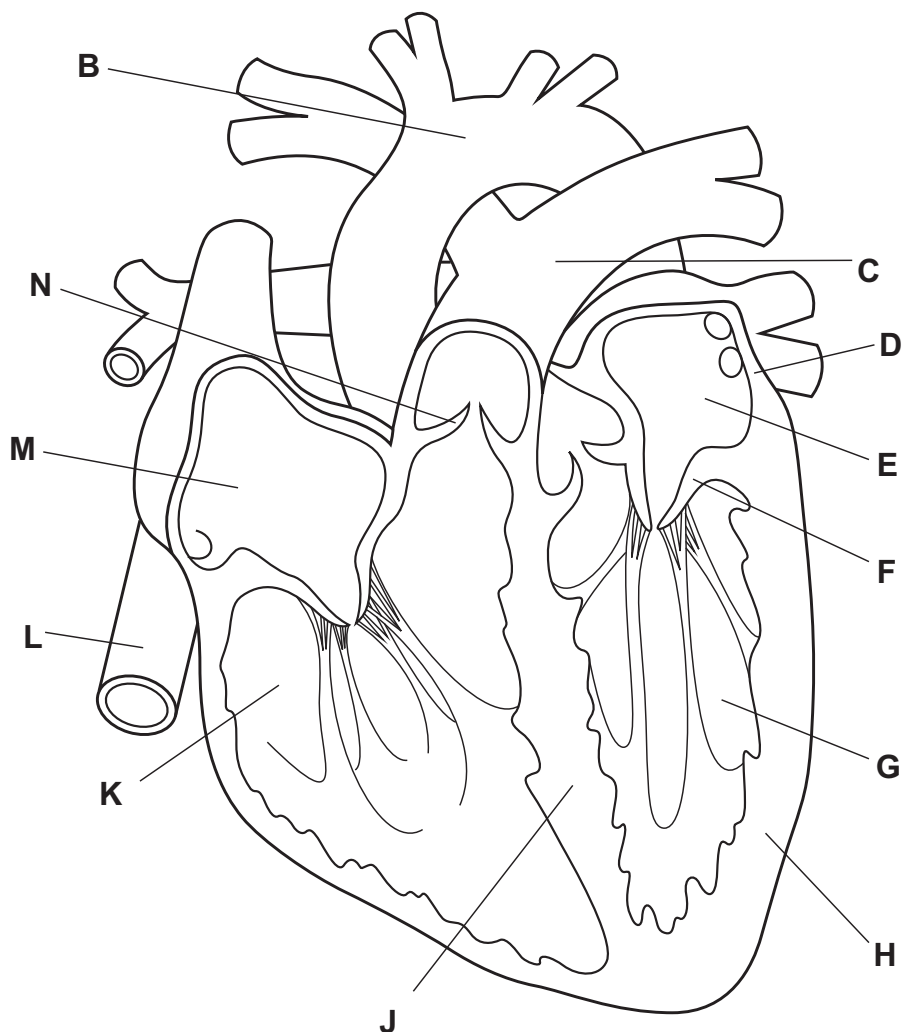


Fig. 4.1

- (a) (i) State the letter in Fig. 4.1 that identifies:  
the structure that separates oxygenated and deoxygenated blood .....  
an atrioventricular valve. ....

[2]

- (ii) Explain why the heart wall at **H** is thicker than the heart wall at **D** in Fig. 4.1.

.....

.....

.....

.....

.....

[2]

(iii) Table 4.1 contains eight descriptions of parts of the pathway a red blood cell takes as it moves from the vena cava to the aorta.

Using Fig. 4.1, complete Table 4.1 by numbering the descriptions to show the correct sequence.

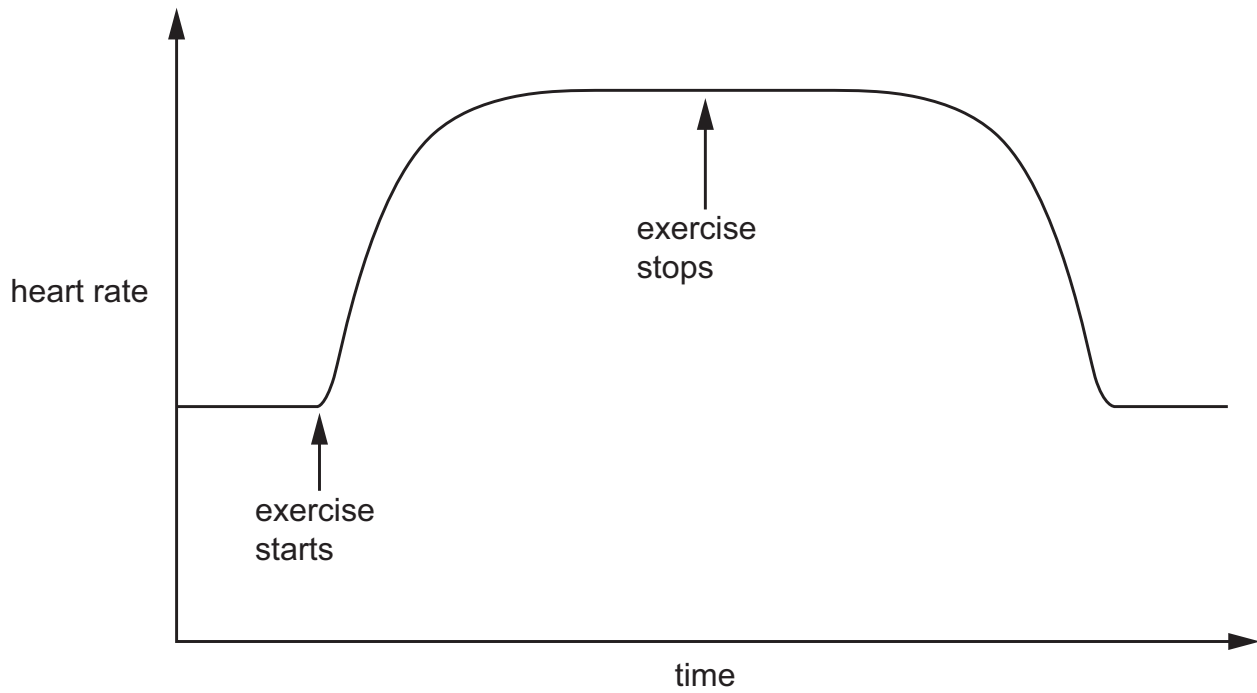
Two have been done for you.

Table 4.1

| description                                       | sequence |
|---------------------------------------------------|----------|
| blood enters <b>C</b>                             |          |
| blood enters <b>E</b> and then <b>E</b> contracts |          |
| blood enters <b>M</b> and then <b>M</b> contracts | 1        |
| blood travels to lungs                            |          |
| blood moves into <b>G</b>                         |          |
| blood moves into <b>B</b>                         | 8        |
| <b>N</b> opens                                    |          |
| blood moves into <b>K</b>                         |          |

[2]

**(b)** Fig. 4.2 shows the effect of exercise on heart rate.



**Fig. 4.2**

(i) Explain the effect of exercise on heart rate shown in Fig. 4.2.

[5]

(ii) A lack of exercise can increase the risk of coronary heart disease.

State **three** other factors that can increase the risk of coronary heart disease.

1 .....

2 .....

3 .....

[3]

[Total: 14]

**17** Which structure in the heart separates oxygenated and deoxygenated blood?

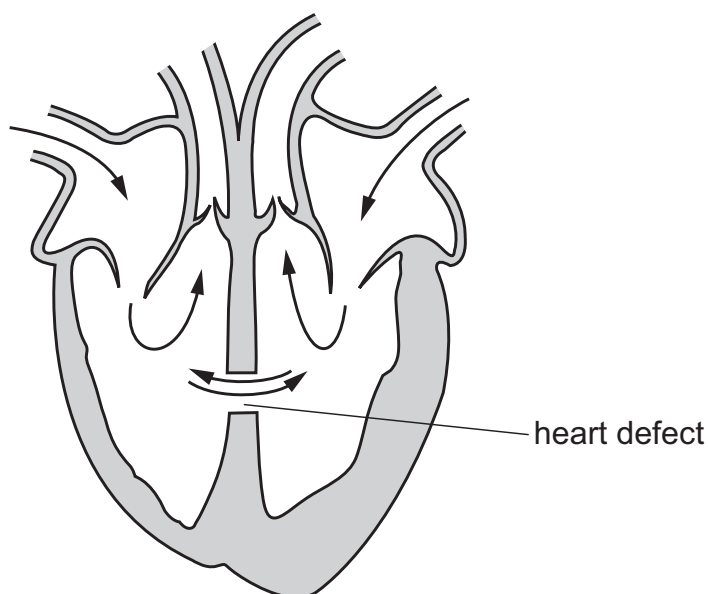
- A** atrioventricular valve
- B** muscle wall of left atrium
- C** semilunar valve
- D** septum

**15** Through which pathway does blood leave the heart?

- A** through arteries from the atria
- B** through arteries from the ventricles
- C** through veins from the atria
- D** through veins from the ventricles

**16** The diagram shows a heart defect that some babies are born with.

The arrows indicate direction of blood flow.



Which statement explains why this heart defect might cause the baby to have poor growth?

- A** Blood flows to the lungs at high pressure increasing rate of gas exchange.
- B** Blood flows to the lungs at low pressure decreasing rate of gas exchange.
- C** Mixing of blood results in less oxygen available for respiration.
- D** Mixing of blood results in more glucose available for respiration.