

9.2 Heart

Name: _____ Class: _____ Date: _____

Total: 8 marks

Objective

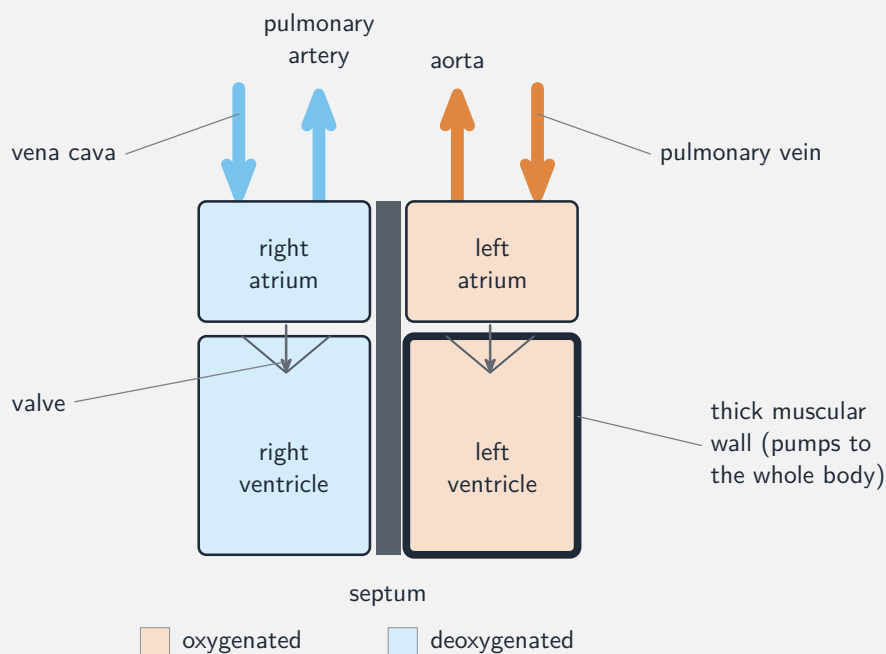
Build the skills to answer exam questions on the **heart** 心脏—its chambers, why the left ventricle wall is thicker, heart rate, and **coronary heart disease** 冠心病.

You must be able to:

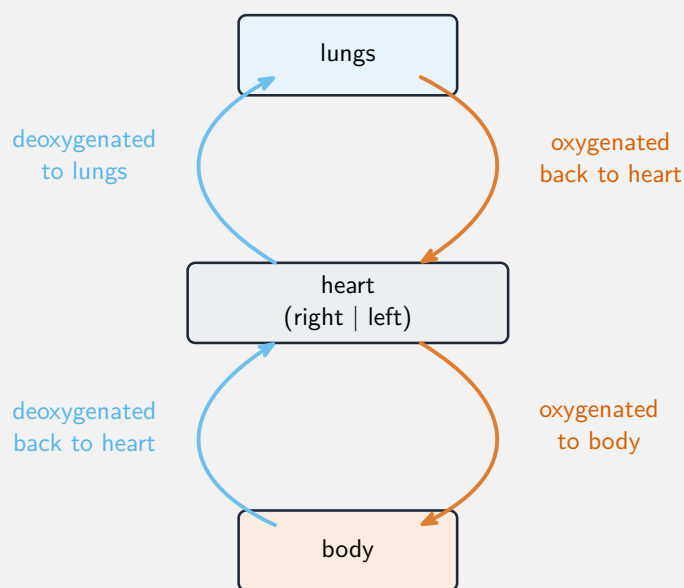
- name the chambers and the role of the septum and valves
- explain why the left ventricle wall is thickest
- give the risk factors for coronary heart disease

1 Worked examples

■ Heart structure



Left ventricle wall is thickest—it pumps blood to the whole body



The heart drives two circuits of blood

- **atria** (upper, thin) push blood to the **ventricles** (lower); the **septum** keeps the two sides apart.
- valves stop blood flowing backwards; coronary arteries feed the heart muscle.

2 Practice

2.1 Name the upper and lower chambers of the heart. [2]

2.2 State the role of the septum. [1]

3 Exam-style questions

3.1 The wall of the left ventricle is thicker than the right because it: [1]

- A pumps blood only to the lungs
- B pumps blood to the whole body
- C holds more blood
- D has no valves

3.2 During exercise the heart rate increases.

(a) Explain why this is needed. [2]

(b) State two risk factors for coronary heart disease. [2]

4 Go further

You are now ready for the real exam questions on this subtopic. Open the **9.2 Heart** past-paper sheet in the Library, or try these in **Practice mode**:

- 0610/23 N25 —Q16 (the heart)
- 0610/43 N25 —Q4 (heart / exercise)

Solutions

2.1 upper: atria; lower: ventricles.

2.2 it keeps oxygenated and deoxygenated blood apart (so they do not mix).

3.1 B. The left ventricle pumps blood to the whole body, so its wall is thickest.

3.2 (a) the muscles need more oxygen and glucose during exercise; a faster heart rate delivers blood (and these) to them faster.

(b) any two of: high-fat diet; lack of exercise; smoking; stress; genetics/age.