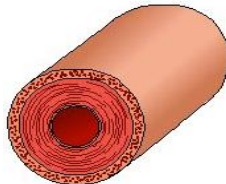


1. There are three blood vessels in the body: *arteries*, *veins*, and *capillaries*.

a) Identify the blood vessel that best represents each diagram. (3 marks)



_____ **vein** _____



_____ **artery** _____



_____ **capillary** _____

b) Identify that blood vessel associated with each description/function. (9 marks)

- | | |
|--------------------------------|--|
| _____ veins _____ | Carry blood towards the heart. |
| _____ capillaries _____ | Have very thin walls. |
| _____ arteries _____ | Carry blood under high pressure. |
| _____ arteries _____ | Carry blood away from the heart. |
| _____ capillaries _____ | Link arteries and veins together. |
| _____ veins _____ | Contain valves ensuring blood flows in one direction. |
| _____ arteries _____ | Have thick muscular walls. |
| _____ veins _____ | Carry blood under low pressure. |
| _____ capillaries _____ | Exchange gas, nutrients, and wastes with tissue cells. |

2. Which protein is found in red blood cells that allows oxygen and carbon dioxide to bind and travel through the body?
 _____ **hemoglobin** _____

3. Which blood vessels contain valves? _____ **veins** _____

What are the functions of these valves? **Valves prevent blood from flowing backwards.**

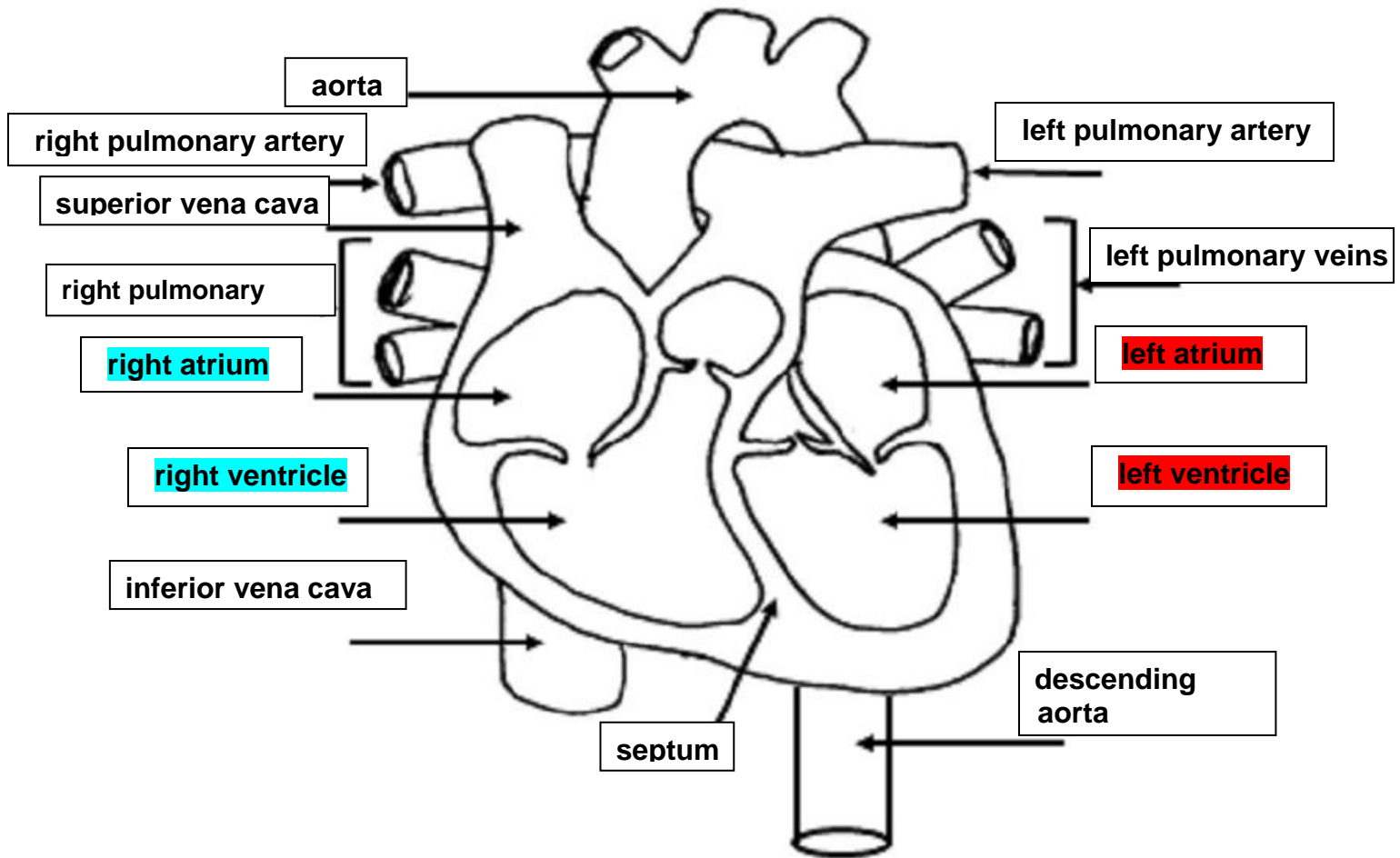
4. a) Use the word bank below to correctly label the different parts of the heart.

Label the terms by inserting text boxes or writing them by hand. (13 marks)

Highlight the two heart chamber terms that carry oxygenated blood **red**. (1 mark)

Highlight the two heart chamber terms that carry deoxygenated blood **blue**. (1 mark)

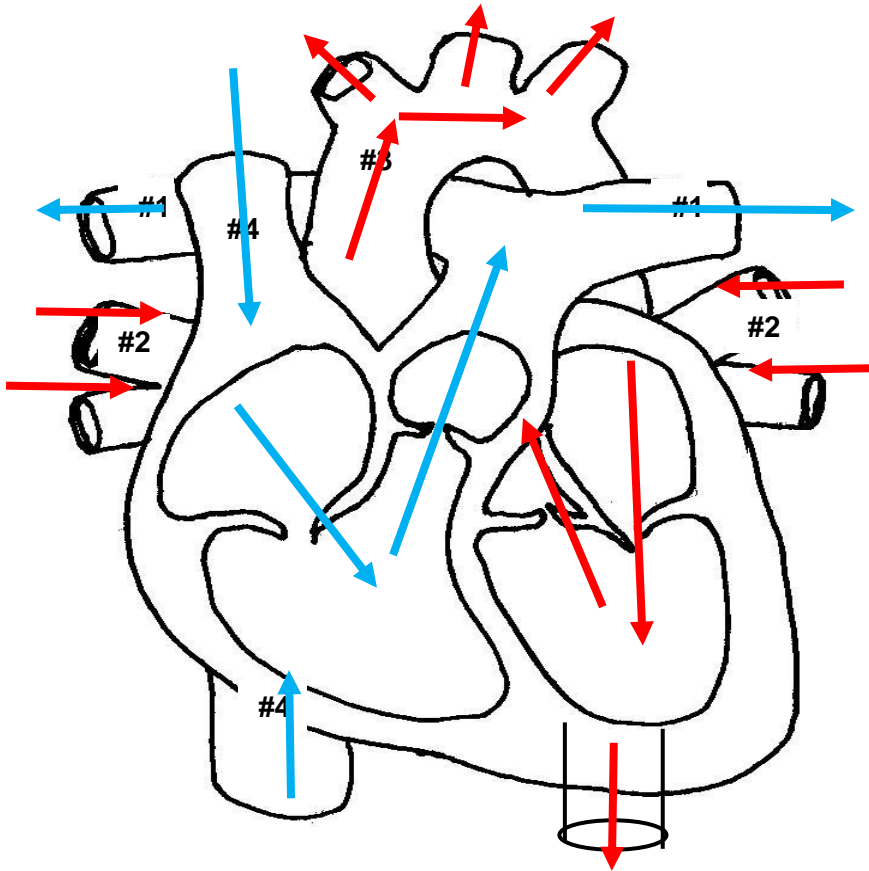
- | | | |
|---|---|---|
| <ul style="list-style-type: none">• aorta• descending aorta• left atrium• right atrium• left pulmonary artery | <ul style="list-style-type: none">• right pulmonary artery• left pulmonary veins• right pulmonary veins• inferior vena cava• superior vena cava | <ul style="list-style-type: none">• left ventricle• right ventricle• septum |
|---|---|---|



b) What is the main function of the *septum* in the heart? Be specific and descriptive. (1 mark)

The septum separates the right side of the heart from the left side of the heart in such a way that it forms a barrier between the heart chambers which prevents mixing of oxygenated and deoxygenated blood.

5. a) Draw arrows to show the flow of blood through the heart. Use red arrows (→) to represent oxygenated blood and blue arrows (→) to represent deoxygenated blood. (4 marks)



b) Answer the following questions based on your labelled heart diagram above. (6 marks)

For the structures identified #1, where is the blood going to? the right and left lungs
 Why? **To pick up oxygen and get rid of carbon dioxide.**

For the structures identified #2, where is the blood going to? **the left side of the heart (left atrium)**

For the structure identified #3, where is the blood going to? the upper and lower parts of the body
 Why? **To deliver the oxygen to all the cells of the body and pick up the carbon dioxide (waste) from the cells.**

For the structures identified #4, where is the blood going to? **the right side of the heart (right atrium)**

6. Starting from and ending with the *right atrium*, trace the flow of blood through the heart and body by the numbering (#1-10) the following in the correct order. I started it for you. (10 marks)

- | | |
|--------------------------|-------------------------|
| ___1___ right atrium | ___4___ lungs |
| ___6___ left atrium | ___2___ right ventricle |
| ___3___ pulmonary artery | ___7___ left ventricle |
| ___10___ vena cava | ___9___ body cells |
| ___8___ aorta | ___5___ pulmonary veins |