

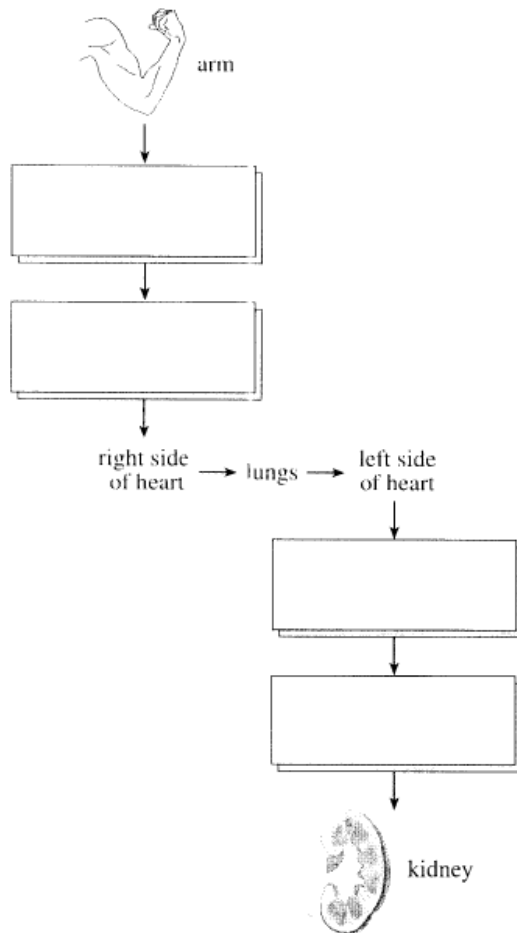
# CH. 12 - CARDIOVASCULAR SYSTEM

## PRACTICE QUESTIONS

Use the following list to answer question 5 a).

- aorta
- renal vein
- renal artery
- subclavian vein
- subclavian artery
- pulmonary artery
- anterior vena cava

5. a) Choose the vessel names from the list above to fill in the boxes that describe the path of blood from the arm to the kidney. (Use only one term per box. Not all of the terms will be used.) **(4 marks)**



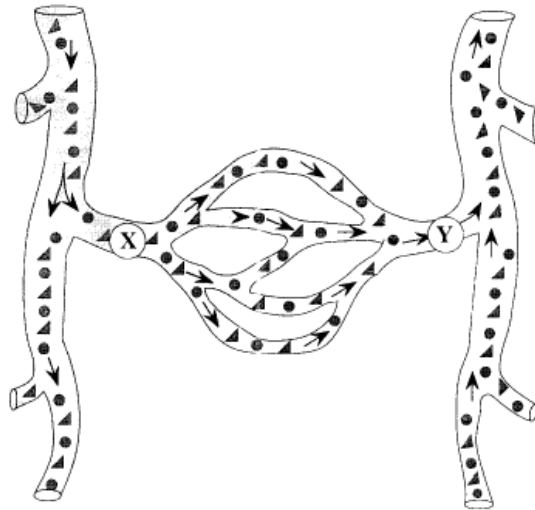
37. What causes materials to move from the blood to the tissues at the arterial end of the capillary bed?
- osmosis
  - blood pressure
  - active transport
  - facilitated transport
38. What is the last heart chamber that blood passes through on its way to the systemic system?
- left atrium
  - right atrium
  - left ventricle
  - right ventricle
39. Which heart structure is not functioning properly if an electrical device is needed to stimulate the atria to contract?
- septum
  - SA node
  - AV node
  - chordae tendineae
40. What is the function of the Purkinje fibres?
- to cause atrial contraction
  - to act as a pacemaker and initiate the heartbeat
  - to prevent the valves from inverting during heartbeat
  - to conduct impulses from the AV node to the ventricles

Use the following table to answer question 23.

Blood vessel	Average blood pressure (mm Hg)	Total cross-sectional area (cm <sup>2</sup> )
W	100	2.5
X	1	8
Y	20	2500
Z	60	40

23. Through which vessel would blood move most slowly?
- W
  - X
  - Y
  - Z

Use the following diagram to answer question 6.



6. Describe what happens to the concentrations of oxygen, carbon dioxide and nutrients in the blood as it moves between points X and Y in the skin. (3 marks)

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36. How are veins and lymph vessels similar?

- A. both contain valves
- B. both return blood to the heart
- C. both have large amounts of elastic tissue
- D. both carry blood with a low oxygen concentration

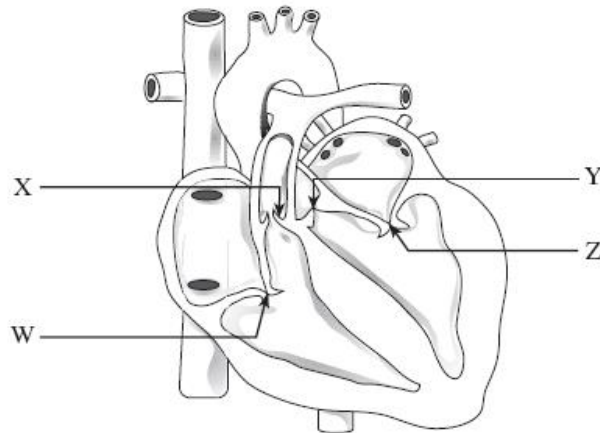
37. Where is blood velocity the slowest?

- A. in a vein
- B. in a venule
- C. in an artery
- D. in a capillary

25. Which of the following maintains the osmotic pressure of the blood?

- A. urea
- B. protein
- C. glycogen
- D. phospholipids

Use the following diagram to answer question 26.



26. Which of the labelled structures prevents blood from re-entering the right atrium from the right ventricle?

- A. W
  - B. X
  - C. Y
  - D. Z
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27. Through how many heart valves must a blood cell pass as it moves from the brain to the lungs?

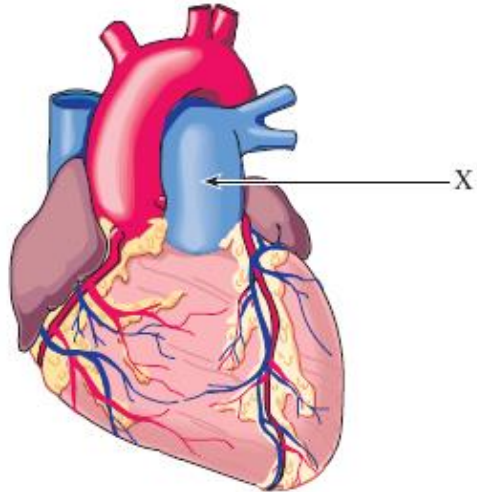
- A. 2
- B. 4
- C. 6
- D. 8

24. What two vessels carry blood to the anterior vena cava?

- A. the jugular vein and the iliac vein
- B. the jugular vein and the subclavian vein
- C. the hepatic portal vein and the renal vein
- D. the coronary vein and the pulmonary vein

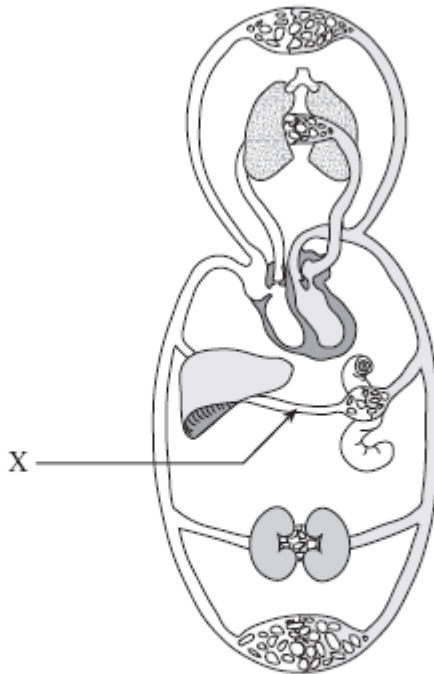
31. Which blood vessels carry blood to and from the legs?
- A. iliac arteries and veins
  - B. renal arteries and veins
  - C. hepatic vein and posterior vena cava
  - D. mesenteric arteries and hepatic portal vein

Use the following diagram to answer questions 32 and 33.



32. What is the function of structure X?
- A. to carry oxygenated blood to the body from the heart
  - B. to return oxygenated blood to the heart from the lungs
  - C. to carry deoxygenated blood to the lungs from the heart
  - D. to return deoxygenated blood to the heart from the body
33. Which blood vessel is **not** shown in the diagram?
- A. the aorta
  - B. the coronary artery
  - C. the anterior vena cava
  - D. the posterior vena cava

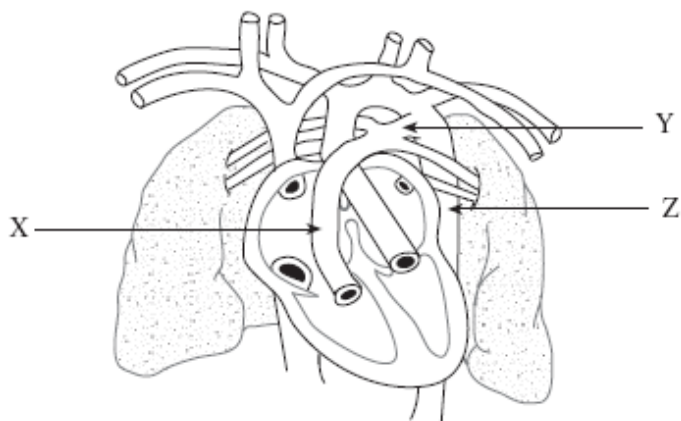
Use the following diagram to answer question 34.




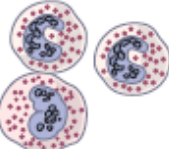
34. What is the blood vessel labelled X?

- A. the renal vein
- B. the hepatic vein
- C. the mesenteric artery
- D. the hepatic portal vein

Use the following diagram to answer question 35.

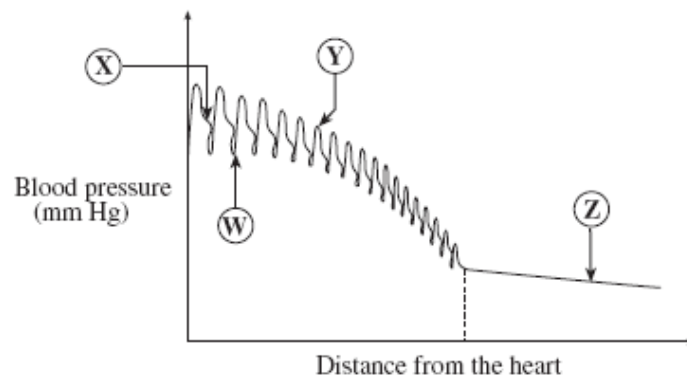


35. What would be a result of structure Y remaining functional after birth?
- A. Blood would flow from the left ventricle to the right ventricle.
  - B. The levels of oxygen in structure Z would be lower than normal.
  - C. The levels of carbon dioxide in structure X would be lower than normal.
  - D. Blood in the left atrium would have higher concentrations of oxygen than blood in the right atrium.
36. What are the functions of each type of cell shown?

	
A. to carry oxygen	to carry carbon dioxide
B. to fight infection	to engulf bacteria
C. to make antibodies	to fight infection
D. to transport hydrogen ions	to engulf bacteria

41. Where does lymph enter the circulatory system?
- at the hepatic vein
  - at the jugular veins
  - at the coronary veins
  - at the subclavian veins
42. Blood enters the iliac artery from which of the following vessels?
- the aorta
  - the renal artery
  - the carotid artery
  - the coronary artery

Use the following graph to answer questions 43 and 44.



43. Which letter indicates the point at which the ventricles are in systole?
- W
  - X
  - Y
  - Z
44. Which of the following occurs at W?
- The semilunar valves are open.
  - The ventricles are filling with blood.
  - The atrioventricular valves are closed.
  - The Purkinje fibres stimulate the atria to contract.





5. Explain how the structure of arteries is related to their function. (2 marks)

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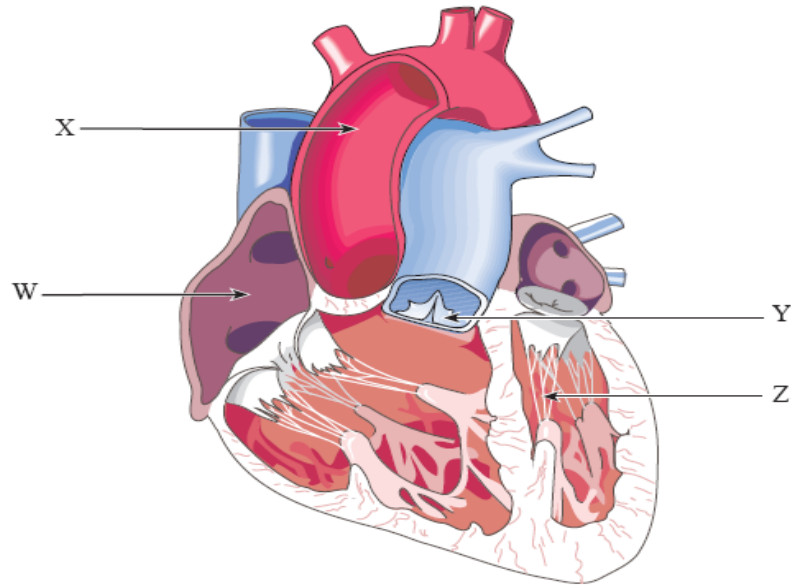
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Use the following diagram to answer question 6.



6. Identify and give **one** function of each of the following structures. (8 marks: 1 mark each for name; 1 mark each for function)

Structure **W**:

Name: \_\_\_\_\_

Function: \_\_\_\_\_

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Structure **X**:

Name: \_\_\_\_\_

Function: \_\_\_\_\_

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Structure **Y**:

Name: \_\_\_\_\_

Function: \_\_\_\_\_

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Structure **Z**:

Name: \_\_\_\_\_

Function: \_\_\_\_\_

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