**Anatomy Worksheet 10**

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 **The Cardiovascular System**

**Exercise 1.** Structures of the Heart: **1)** Match the structures of the heart (letters in **Column A**) with the descriptions (numbers in **Column B**) below.

**Column A**

**A.** bicuspid valve **F.** apex of heart **K.** trabeculae carneae

**B.** auricle of atria **G.** papillary muscles **L.** epicardium

**C.** pulmonary trunk **H.** interventricular (IV) groove **M.** interventricular (IV) septum

**D.** tricuspid valve **I.** coronary sulcus **N.** coronary sinus

**E.** endocardium **J.** aortic semilunar valve **O.** base of heart

**Column B**

**1.** \_\_\_ inferior tip of the heart

**2.** \_\_\_ inner lining of the heart chambers

**3.** \_\_\_ drains blood from the coronary capillaries

**4.** \_\_\_ groove separating atrial and ventricular portions of heart

**5.** \_\_\_ structures from which chordae tendineae originate

**6.** \_\_\_ prevents retrograde flow from right ventricle to right atrium

**7.** \_\_\_ can also be referred to as visceral pericardium

**8.** \_\_\_ gives rise to arteries delivering blood to lungs

**9.** \_\_\_ structure separating left and right ventricles

**10.** \_\_\_ small flaps on external surface of atrium

**2)** **Multiple Choice Questions**: Select the best answer.

**1.** The largest of the circulatory routes is

**a)** systemic

**b)** pulmonary

**c)** coronary

**d)** hepatic portal

**e)** renal

**2.** Which of the following are involved in pulmonary circulation?

**a)** superior vena cava, right atrium, and left ventricle

**b)** inferior vena cava, right atrium, and left ventricle

**c)** right ventricle, pulmonary artery, and left atrium

**d)** left ventricle, aorta, and inferior vena cava

**3.** From these vessels and structures, trace a RBC returning from the body in the correct order:

**1.** right atrium **2.** left atrium **3.** right ventricle **4.** left ventricle **5.** aorta

**6.** vena cava (superior and inferior) **7.** pulmonary trunk **8.** pulmonary vein

**a)** 1, 2, 7, 8, 3, 4, 5, 6

**b)** 1, 7, 3, 8, 3, 4, 5, 6

**c)** 6, 1, 3, 7, 8, 2, 4, 5

**d)** 6, 3, 1, 7, 8, 4, 2, 5

**e)** 6, 1, 3, 8, 7, 2, 4, 5

**4.** The muscular wall of the right ventricle is thinner than the left ventricle wall because the right ventricle

**a)** holds a lesser volume of blood

**b)** pumps blood to the lungs

**c)** pumps blood to the entire body

**d)** pumps the blood through a smaller valve

**e)** pumps blood throughout the heart

**5.** The groove separating the atria from the ventricles is known as the

**a)** I.V. septum **b)** AVseptum **c)** interventricular sulcus **d)** interatrial septum **e)** coronary sulcus

**Exercise 2.** Structures of the Heart: **1)** Write the name of the specific structure indicated in the drawing of the heart below, list them on the next page.



**1.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**2.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**3.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**4.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**5.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**6.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**7.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**8.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**9.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**10.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**11.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**12.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**13.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**14.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**15.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**16.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**17.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**18.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**19.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**20.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**21.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**22.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**23.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**24.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**2)** Write the name of the specific structure indicated in the drawing of the heart below, list them on the next page.



**1.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**2.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**3.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**4.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**5.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**6.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**7.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**8.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**9.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**10.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**11.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**12.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**13.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**14.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**15.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**16.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**17.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**18.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**19.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**20.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**21.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**22.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**23.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**24.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**25.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**26.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**27.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**28.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Exercise 3.** Arterial System

**1)** Draw a labeled diagram of the systemic arterial branches coming directly from the aorta, from the heart to the terminal segment of the aorta (Lab Unit 5a structures).

**Exercise 4.** Arterial Vasculature

**1)** Match the arteries (letters) with the regions supplied by the arteries (numbers) below.

**A.** renal **F.** lumbar **K.** superior mesenteric **P.** axillary

**B.** external carotid **G.** right subclavian **L.** internal carotid **Q.** popliteal

**C.** inferior mesenteric **H.** intercostal **M.** left gastric **R.** radial

**D.** splenic **I.** thyrocervical **N.** costocervical **S.** suprarenal

**E.** common hepatic **J.** brachial **O.** femoral **T.** phrenic

**1.** \_\_\_ larynx, lower jaw and face **9.** \_\_\_ posterior abdominal wall

**2.** \_\_\_ muscles and skin of neck, thyroid **10.** \_\_\_ eyes and brain

**3.** \_\_\_ kidney **11.** \_\_\_ diaphragm

**4.** \_\_\_ upper digestive tract **12.** \_\_\_ lower colon

**5.** \_\_\_ thigh muscles, to lower limbs **13.** \_\_\_ adrenal gland

**6.** \_\_\_ spleen **14.** \_\_\_ lower lateral arm muscles

**7.** \_\_\_ triceps muscles **15.** \_\_\_ knee joint

**8.** \_\_\_ anterior thoracic wall **16.** \_\_\_ stomach

**Exercise 5.** Venous System

**1)** Draw a labeled diagram of the venous system tributaries on their way back to the heart from the upper limbs. Include deep and superficial veins as they connect and end in the heart (Lab Unit 5a structures).

**Exercise 6.** Venous Vasculature

**1)** Match the veins listed with the regions of the body that they drain below.

**A.** median cubital **F.** ulnar **K.** intercostal **P.** azygos

**B.** inferior vena cava **G.** great saphenous **L.** femoral **Q.** esophogeal

**C.** small saphenous **H.** internal jugular **M.** radial **R.** pulmonary

**D.** basilic **I.** brachiocephalic **N.** external jugular **S.** hepatic portal

**E.** superior mesenteric **J.** subclavian **O.** inferior mesenteric **T.** cephalic

**1.** \_\_\_ receives blood from the right colic, right gastoepiploic and pancreaticodoudenal veins

**2.** \_\_\_ collects blood from the superficial veins of the foot and leg

**3.** \_\_\_ empties into the axillary vein and drains the deep lateral forearm

**4.** \_\_\_ receives blood from neck, face, salivary glands and scalp

**5.** \_\_\_ interconnects the basilic and cephalic veins

**6.** \_\_\_ receives blood from the medial surface of upper limbs

**7.** \_\_\_ drains blood from the superficial veins of the lower limb

**8.** \_\_\_ receives blood from the left colic and superior rectal veins

**9.** \_\_\_ collects blood from cranium, neck and face

**10.** \_\_\_ collects blood from the hepatic, gonadal, lumbar, phrenic, suprarenal and renal veins

**2)** **Multiple Choice Questions**: Select the best answer.

**1.** All arteries of systemic circulation branch from the

**a)** superior vena cava  **b)** inferior vena cava **c)** pulmonary artery  **d)** coronary artery **e)** aorta

**2.** Which statement best describes arteries?

**a)** all carry oxygenated blood to the heart

**b)** all contain valves to prevent the backflow of blood

**c)** all carry blood away from the heart

**d)** only large arteries are lined with endothelium

**e)** all lack elastic fibers

**3.** Which statement is not true of veins?

**a)** they have less elastic tissue and smooth muscle than arteries

**b)** their tunica externa is the thickest coat

**c)** most veins in the limbs have valves

**d)** they always carry deoxygenated blood

**e)** they are larger than arteries

**4.** An obstruction in the inferior vena cava would hamper the return of blood from the

**a)** head and neck

**b)** upper limbs

**c)** thorax

**d)** abdomen and pelvis

**e)** lungs

**5.** Which of the following statements about systemic circulation is not correct?

**a)** its purpose is to carry oxygen and nutrients to body tissues and to remove carbon dioxide

**b)** all systemic arteries branch from the aorta

**c)** it involves the flow of blood from the body to the left atrium

**d)** it involves the flow of blood from the left ventricle to all parts of the body except the lungs

**6.** Which of the vessels does not belong with the others?

**a)** brachiocephalic artery

**b)** left common carotid artery

**c)** vertebral artery

**d)** left subclavian artery

**7.** A thrombus in the first branch of the arch of the aorta would affect the flow of blood to the

**a)** left side of the head and neck

**b)** myocardium of the heart

**c)** left upper limb

**d)** right side of the head and neck and right upper limb

**e)** brain and neck

**8.** The circulatory route that detoxifies blood from the gastrointestinal tract via the liver is called the

**a)** coronary circulation

**b)** pulmonary circulation

**c)** hepatic portal circulation

**d)** cerebral circulation

**9.** If a thrombus in the left common iliac vein dislodged, which arteriole system would it first be found?

**a)** brain  **b)** kidneys  **c)** lungs  **d)** left arm **e)** coronary

**10.** Which coat of an artery contains endothelium?

**a)** tunica interna

**b)** tunica media

**c)** tunica externa

**d)** tunica adventitia

**e)** mesothelium

**3) Fill-in**: Complete the statements using the most appropriate word or words.

**1.** The arteries that branch directly from the aortic arch in order of their origination are the:

**a)** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, **b)** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, **c)** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_,

**2.** Just distal to the elbow, the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ artery divides into the radial and ulnar arteries.

**3.** The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ artery supplies the stomach and greater omentum.

**4.** In the skull, the vertebral arteries unite to form the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ artery.

**5.** Blood is supplied to the pancreas, most of the small intestine, and part of the large intestine by the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ artery.