**Anatomy Worksheet 14**

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

**The Renal System**

**Exercise 1.** Answer the following questions regarding the structures and functions of the renal system.

**1.** A nephron can be divided into 2 major parts; they are the \_\_\_\_\_\_\_\_\_\_\_\_ and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**a)** renal corpuscle; convoluted renal tubules

**b)** renal corpuscle; renal tubules

**c)** cortex and medulla

**d)** glomerulus;collecting tubules

**e)** renal capsule; glomerulus

**2.** There are approximately \_\_\_\_\_\_\_\_\_ nephrons in one kidney.

**a)** 1.25 million **b)** 2 million **c)** 2.5 million **d)** 3 million **e)** 4 million

**3.** The hormone released by the kidney that is responsible for stimulating RBC production is

**a)** erythropoietin **b)** plasmin **c)** albumin **d)** hemoglobin **e)** rennin

**4.** The internal urinary sphincters is made of ?

**a)** dense irregualr connective tissue

**b)** longitudinal muscle

**c)** smooth muscle

**d)** skeletal muscle

**e)** a thickening of the outer longitudinal smooth muscle

**5.** The renal system can function in all of the following except:

**a)** regulation of electrolyte balance in plasma

**b)** eliminated of waste products from blood

**c)** stabilizes pH of blood

**d)** regulation of blood volume by adding extra water to the plasma

**e)** produces and releases hormones for RBC production

**6.** The compact arrangement of capillaries within the Bowman’s capsule in the nephron is called the

**a)** glomerular capsule

**b)** Bowman’s space

**c)** glomerulus

**d)** renal corpuscle

**e)** peritubular capillaries

**7.** The location of the kidneys can be best described as

**a)** inferior **b)** retroabdominal **c)** dorsal **d)** posterior and inferior to ribs  **e)** retroperitoneal

**8.** The glomerulus is lined with \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_ epithelium.

**a)** dense irregular **b)** simple squamous **c)** simple cuboidal **d)** stratified squamous **b)** smooth muscle

**Complete the following statements**:

**9.** The amount of filtrate made by the renal system in one day is typically \_\_\_\_\_\_\_ L.

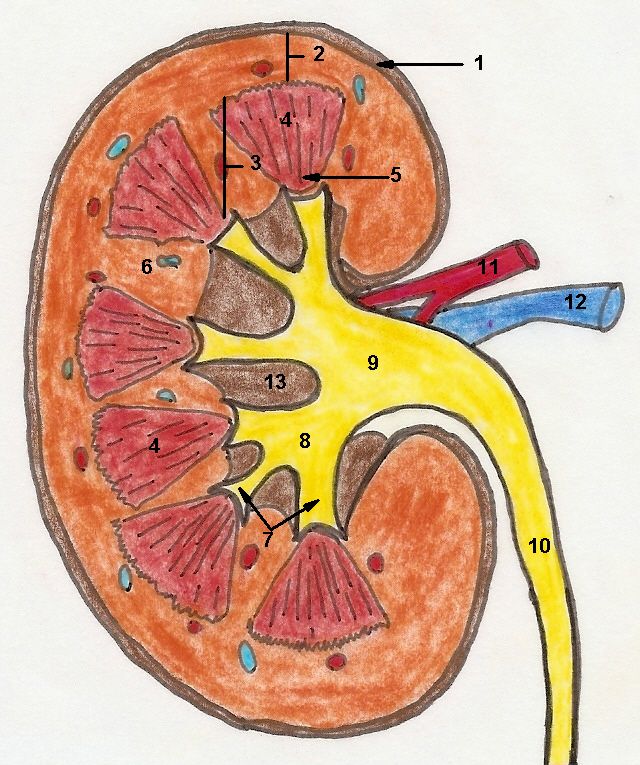
**10.** The smallest structure that does the job of the entire kidney is the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, this is why it is called the “\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ “ of the kidneys.

**11.** The glomerulus is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ capillary bed and it is covered with \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ that help control the amount of filtrate made at the renal corpuscle.

**12.** Surrounding the juxtamedularry nephron tubules are the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ capillary beds.

**13.** The kidneys receive about \_\_\_\_to \_\_\_\_% of cardiac output and their location is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Exercise 2.** Structures of Renal System: The Kidney. **1)** Write the name of the specific numbered structures indicated in the drawing of the frontal section of the kidney below. Use lab manual structures as a guide. Place answers on the numbered lines on the next page.



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

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

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

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

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

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

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

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

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

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

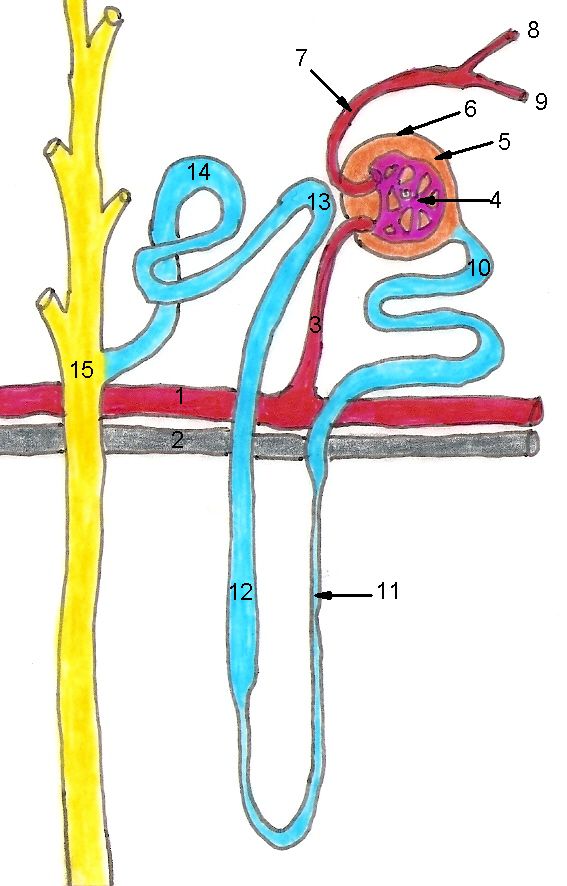
**11.** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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

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

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

**Exercise 3.** Structures of Renal System: The Nephron. The nephron is considered the ‘functional unit’ of the kidney because it is the smallest structure which does the job of the whole. **1)** Write the names of the specific numbered structures indicated in the diagram of the nephron below.



Use lab manual structures as a guide. Place answers on the numbered lines on the next page.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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