Name: _____ Per: ___ A or H

Kidney Dissection: The Urinary System and the Kidney

Directions: Fill in the blanks and then complete the matching.

A. The Urinary System

1. The _____ are a pair of reddish organs that lie at about the L-1 level of the body.
2. Transporting the urine to the urinary bladder is the function of the _____ (s).
3. The _____ _____ is a hollow muscular organ situated in the pelvic cavity posterior to the pubic symphysis.
4. From the floor of the bladder comes a single _____. It leads to the outside of the body.
5. Guarding the entrance to the urethra are two muscular sphincters: the _____is composed of smooth muscle and the outer _____ composed of skeletal muscle.

B. The Kidney: Answer after examining your un-dissected and dissected kidney.

1. Near the center of the concave border is a notch called the _____, through which the ureter and blood vessels penetrate.
2. Covering each kidney is a fibrous membrane that can be easily stripped off. This is the _____ _____ , and it serves as a barrier against trauma and the spread of infection.
3. After your longitudinal cut, the outer reddish area is called the _____, and the inner reddish-brown layer is the _____.
4. In the medulla are 8 to 18 striated, triangle-shaped structures called the _____ _____. The tips point toward the center of the kidney and are called _____ _____.
5. A large cavity in the renal sinus is the _____ _____. The pelvis subdivides into a series of cuplike extensions called _____, which receive urine from the pyramids and conduct it to the pelvis and then into the ureters.

C. The Nephron: The basic functional unit of the kidney. Examine a diagram and answer the questions.

1. The nephron begins with a double-walled cuplike structure called _____ _____. It lies in the cortex. Inside the "cup" is a capillary network called the _____. The blood, passing through the glomerulus, is filtered into Bowman's capsule as it passes through this structure.
2. The filtered fluid then passes into a highly coiled tube, the _____ _____ _____.
3. The fluid then enters the _____ of _____, which dips toward the medulla.
4. The last segment of the nephron is the _____ _____ _____.
5. The DCT of many nephrons join with a straight _____ _____. These pass through the renal pyramids and open into the calyces. The fluid that flows into these calyces is now _____.

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Match the Following:

____ cortical substance between the renal pyramids

____ an extension of the pelvis carrying urine away from the bladder

____ composed of skeletal muscle and under voluntary control

____ short in the female, long in the male

____ the tips of the pyramids

____ cuplike extensions of the pelvis

____ concave border of the kidney – medial outside surface

____ fibrous membrane covering the kidney

A. ureters

B. urinary bladder

C. urethra

D. internal sphincter

E. external sphincter

F. hilum

G. renal capsule

H. Cortex

I. medulla

J. renal pyramids

K. renal papillae

L. renal column

M. renal pelvis

N. renal calyx

Match the Following:

____ dips into the medulla and then back to the cortex

____ cuplike structure

____ connects the loop of Henle to the collecting duct

____ capillary network

____ dumps urine into the calyx

____ connects Bowman's capsule to the loop of Henle

A. Bowman's capsule

B. glomerulus

C. proximal convoluted tubule

D. loop of Henle

E. distal convoluted tubule

F. collecting duct