

## Renal System Review Questions

Match the following with their respective values:

- |                                    |                       |
|------------------------------------|-----------------------|
| b    1. Water                      | a. 40% of body weight |
| c    2. Extracellular Fluid Volume | b. 60% of body weight |
| a    3. Intracellular Fluid Volume | c. 20% of body weight |

4. An increase in the osmolality causes:

- a. decrease in extracellular fluid volume
- b. the extracellular fluid volume to remain the same
- c. increase in intracellular fluid volume

- \* d. increase in extracellular fluid volume
- e. none of the above

5. The result of afferent arteriole constriction is:

- a. increase in glomerular filtration rate

- \* b. decrease in glomerular filtration rate

6. The result of efferent arteriole constriction is:

- a. increase in glomerular filtration rate

- \* b. decrease in glomerular filtration rate

7. Tubuloglomerular feedback is described by;

- a. increase in renal arterial pressure causes decreased resistance and increased flow

- \* b. increase in renal arterial pressure causes constriction of afferent arteriole which decreases flow
- c. decrease in renal arterial pressure causes constriction of afferent arteriole which decreases flow
- d. decrease in renal arterial pressure causes decreased resistance and increased flow

8. To measure the glomerular filtration rate the concentration of \_\_\_\_\_ in the urine must be compared to the concentration of \_\_\_\_\_ in the plasma.

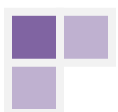
- a. inulin; creatinine
- b. creatinine; BUN
- c. creatinine; creatinine

- \* d. inulin; inulin

9. The following get filtered from the glomerulus into the tubules:

- a. urea
- b. creatinine
- c. calcium
- d. protein
- e. all of the above

- \* ab. a, b and c



10. The amount reabsorbed is equal to:
- a. amount excreted in urine – amount filtered
  - \* b. amount filtered – amount excreted in urine
  - c. amount absorbed – amount excreted
  - d. amount excreted – amount absorbed
11. Transport between tubules are capillaries involves all of the following except:
- a. active transport
  - \* b. secretion
  - c. net diffusion
  - d. osmosis

Match the following segments of the renal tubules with the proper characteristic:

- |   |   |
|---|---|
| c 12. proximal tubules                  | a. reabsorbs Na <sup>+</sup> in presence of aldosterone |
| b 13. descending limb of Henle          | b. highly permeable to water                            |
| d 14. ascending limb of Henle           | c. glucose and amino acids are reabsorbed               |
| a 15. distal tubule and collecting duct | d. Ca <sup>2+</sup> and Mg <sup>2+</sup> reabsorbed     |

16. Transport maximum is the:
- a. maximal amount of glucose that can be filtered
  - b. minimum amount of glucose that can be reabsorbed
  - \* c. maximal amount of glucose that can be reabsorbed
17. The following is(are) true regarding renal clearance of plasma
- a. basis for qualitative evaluation of renal function
  - b. ratio of renal excretion rate of a substance to concentration in urine
  - \* c. a and b
  - d. none of the above
18. Active vit. D \_\_\_\_\_ from the intestine.
- \* a. increases Ca<sup>2+</sup> absorption
  - b. decreases Ca<sup>2+</sup> absorption
  - c. increases Ca<sup>2+</sup> secretion
  - d. decreases Ca<sup>2+</sup> secretion
19. Kidneys secrete erythropoietin in response to:
- a. hypoxia
  - b. anemia
  - c. hypotension
  - \* d. all of the above
  - e. none of the above



20. A(n) \_\_\_\_\_ in rennin causes a(n) \_\_\_\_\_ in aldosterone and ADH causing \_\_\_\_\_ water retention.
- a. increase; decrease; increase
  - b. decrease; decrease; increase
  - \* c. increase; increase; increase
  - d. decrease; decrease; decrease
21. The purpose of the countercurrent mechanism is:
- a. to create a low osmolarity in the medulla, so when ADH is present, water will exit collecting ducts
  - b. to create a high osmolarity in the cortex, so when aldosterone is present, water will exit collecting ducts
  - \* c. to create a high osmolarity in the medulla, so when ADH is present, water will exit collecting ducts
  - d. to create a high osmolarity in the medulla, so when ADH is present, water will enter collecting ducts
22. The following increases osmolality in the countercurrent mechanism:
- a. NaCl from thick ascending limb
  - b. Urea from collecting ducts
  - c. none of the above
  - \* d. all of the above
23. Which of the following is the indicator for compensation in non-respiratory alkalosis?
- a.  $PCO_2 = 30$  mmHg
  - b.  $HCO_3^- = 34$  mEq/L
  - c.  $PCO_2 = 40$  torr
  - d.  $HCO_3^- = 20$  mEq/L
  - \* e.  $PCO_2 = 50$  mmHg
24. The following data is indicative of what?  
 $HCO_3^- = 18$  mEq/L,  $PCO_2 = 32$  mmHg, pH = 7.36
- a. compensated respiratory acidosis
  - b. uncompensated non-respiratory acidosis
  - \* c. compensated non-respiratory acidosis
  - d. compensated non-respiratory alkalosis
  - e. uncompensated non-respiratory alkalosis
25. The following data is indicative of what?  
 $HCO_3^- = 27$  mEq/L,  $PCO_2 = 37$  mmHg, pH = 7.51
- a. compensated respiratory acidosis
  - b. uncompensated non-respiratory acidosis
  - c. compensated non-respiratory acidosis
  - d. compensated non-respiratory alkalosis
  - \* e. uncompensated non-respiratory alkalosis

