1. Which one of the following list of symptoms would you expect in a person lacking 11β hydroxysteroid dehydrogenase in the kidney?
   a) hypertension, hypokalemia, metabolic acidosis
   b) hypotension, hyperkalemia, metabolic acidosis
   c) hypotension, hyperkalemia, metabolic alkalosis
   d) hypertension, hypokalemia, metabolic alkalosis
   e) hypotension, hypokalemia, metabolic acidosis

2. Which one of the following statements regarding free water clearance is false?
   a) The urine osmolar concentration must be less than plasma if free water clearance (CH₂O) is positive
   b) The osmolar excretion rate must be less during the formation of a positive free water clearance than during the formation of a negative free water clearance
   c) The urine osmolar concentration must be greater than plasma if CH₂O is negative
   d) CH₂O is negative with antidiuretic hormone but is positive in the absence of the hormone
   e) The maximum positive free water clearance is a larger value than the maximum negative free water clearnace

3. The osmolar concentration of tubular fluid at the macula densa is:
   a) lower than that of the final urine when plasma ADH concentrations are high
   b) unaffected by furosemide
   c) higher than that of plasma when ADH concentrations are high
   d) increased by aldosterone
   e) normally isosmotic to plasma

4. Bicarbonate reabsorption in the proximal tubule:
   a) increases when the extracellular fluid volume is expanded
   b) increases in the presence of acetazolamide
   c) decreases as protein intake increases
   d) is a K-dependent process
   e) does not result in net acid excretion

5. Which one of the following statements regarding the renal handling of K is correct?
   a) K excretion increases during treatment with agents that inhibit sodium reabsorption in the proximal tubule or in the loop of Henle
   b) Increases in plasma K concentration cause a decrease in aldosterone release from the adrenals
   c) As the transtubular potential in the distal tubule decreases (becomes more negative), K secretion decreases
   d) Drugs such as amiloride or spironolactone enhance K secretion
   e) Aldosterone escape refers to the fact that K secretion returns to the normal baseline during hyperaldosteronism