

<b>CHAPTER 9</b>	<b>Hemodialysis and Peritoneal Dialysis Answer Key</b>	<b>BLM 9.3.5A</b>
<b>ANSWER KEY</b>		

1. Dialysate contains 5 units of  $K^+$  so that the ion will diffuse out of the uremic plasma (8 units) only until its concentration becomes normal.
2. Bicarbonate ions buffer  $H^+$  ions in the blood, thereby maintaining blood pH. Kidney failure causes  $H^+$  to accumulate in the blood. As a result, bicarbonate ions in the plasma react with the excess  $H^+$ , forming  $H_2CO_3$ , and then  $H_2O$  and  $CO_2$  are exhaled. This acid-base buffer system is compensating somewhat for lack of  $H^+$  excretion by the kidneys.
3. Glucose concentration is 100 units in both normal and uremic plasma. Creating dialysate with 125 units of glucose causes its diffusion into the blood during dialysis, thus “feeding” the patient during the procedure.
4. Normal plasma contains about 26 units of urea. Concentration of urea in uremic plasma is larger by about 8-fold. The total lack of urea in the dialysate creates the largest possible diffusion gradient to allow for maximum elimination of urea during dialysis.