# "TRY YOURSELF" PROBLEMS FROM STUDY SECTION 8.2

## Try Yourself 8.2 a

 $HNO_3(aq) + H_2O(1) \leftrightarrows NO_3^-(aq) + H_3O^+(aq)$ 

 $CH_3COOH(aq) + H_2O(l) \rightleftharpoons CH_3COO^-(aq) + H_3O^+(aq)$ 

#### Try Yourself 8.2 b

What is the conjugate base of the  $HCO_3^-$  ion?

(1) $113003$ $(2)$ $11003$ $(0)$ $003$	(1)	$H_3CO_3^+$	(2)	HCO <sub>3</sub> <sup>-</sup>	(3)	$CO_3^2$
--	-----	-------------	-----	-------------------------------	-----	----------

Which of the following is NOT an acid-base conjugate pair?

(1)	HClO and Cl <sup>-</sup>	(2)	$HNO_2$ and $NO_2^-$
(3)	HF and F <sup>−</sup>	(4)	H <sub>2</sub> CO <sub>3</sub> and HCO <sub>3</sub> <sup>-</sup>

### Try Yourself 8.2 c

Complete this table by identifying the correct conjugate acid or conjugate base.

Acid	Conjugate base	Base	Conjugate acid
НСООН		CN <sup>-</sup>	
H <sub>2</sub> S			HSO4
	CIO		H <sub>2</sub> SO <sub>3</sub>

# Try Yourself 8.2 d

Write a balanced equation for the reaction that occurs when  $H_3PO_4$ , phosphoric acid, donates a proton to water to form the dihydrogen phosphate ion. Is the dihydrogen phosphate ion an acid, a base or amphiprotic?