

WORKSHEETS ARE DUE AT THE BEGINNING OF CLASS ON THE DATE GIVEN ON THE WORKSHEET. LATE WORKSHEETS WILL NOT BE ACCEPTED.

NAME \_\_\_\_\_

Panther ID \_\_\_\_\_

For problems involving calculations you must show your work for credit.

1) It is sometimes possible to rank binary or ternary weak acids in terms of their relative strength.

a) What are the two factors that determine the relative strength of a binary or ternary acid? How do these factors influence acid strength?

b) Put the following three acids in order from strongest to weakest (strongest first): HCl, HI, H<sub>2</sub>S

2) Which of these reactions goes essentially to completion?

- a) reaction of a strong acid with a strong base
- b) reaction of a strong acid with a weak base
- c) reaction of a weak acid with a weak base
- d) both a and b
- e) both a and b and c

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3) Consider 500.0 mL of a 0.200 M aqueous solution of hypobromous acid at  $T = 25. \text{ }^\circ\text{C}$ .

a) What is the pH of the above solution? Note that for HOBr,  $K_a = 2.5 \times 10^{-9}$ .

b) 0.868 g of solid sodium hypobromite (NaOBr) is added to the above solution. What is the new pH of the solution after the addition of NaOBr?