Surname:_____; Given name: _____; Student #: _____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question, then transfer your answer to the scantron sheet.

1) Identify the expression for the solubility product constant for $Cr_2(CO_3)_3$. 1) _____

A) $\frac{[Cr_2(CO_3)_3]}{[Cr^{3+}]^2[CO_3^{2-}]^3}$

B) $\frac{[Cr^{3+}]^2[CO_3^{2-}]^3}{[Cr_2(CO_3)_3]}$

C) $[Cr^{3+}]^3[CO_3^{2-}]^2$

D) $\frac{[Cr^{3+}]^3[CO_3^{2-}]^2}{[Cr_2(CO_3)_3]}$

E) $[Cr^{3+}]^2[CO_3^{2-}]^3$

2) A monoprotic weak acid has a $K_a = 4.2 \times 10^{-3}$. If $[A^-] = 2.0$ M, what must [HA] be so that $[H_3O^+]$ 2) _____
$= 2.1 \times 10^{-3}$ M?

A) 0.5 M B) 2.0 M C) 1.5 M D) 1.0 M E) 0.25 M