3.77 KEY

$$3NaHCO_3 + H_3C_6H_5O_7 \rightarrow 3CO_2 + 3H_2O + Na_3C_6H_5O_7$$

FW: 84.01_g 192.12_g 44_g 18_g 258.07_g

$$1_g\ NaHCO_3 \times \frac{1\ mole\ NaHCO_3}{84.01_g} \times \frac{3\ mole\ CO_2}{3\ mol\ NaHCO_3} \times \frac{44_g}{1\ mole\ CO_2} = 0.524_g\ CO_2 \ *$$

$$1_g\ H_3C_6H_5O_7 \times \frac{1\ mole\ H_3C_6H_5O_7}{192.12_g} \times \frac{3\ mole\ CO_2}{1\ mole\ H_3C_6H_5O_7} \times \frac{44_g}{1\ mole\ CO_2} = 0.687_g\ CO_2$$

(A) $NaHCO_3$ → Limits

(B) 0.524_g CO_2 ARE MADE

$$1_g\ NaHCO_3 \times \frac{1\ mole\ NaHCO_3}{84.01_g} \times \frac{1\ mole\ H_3C_6H_5O_7}{3\ mole\ NaHCO_3} \times \frac{192.12_g}{1\ mole\ H_3C_6H_5O_7} = 0.762_g\ \text{used}$$

1_g $H_3C_6H_5O_7$

$- 0.762_g$ $H_3C_6H_5O_7$

(C) 0.238_g $H_3C_6H_5O_7$ Remain in excess