Warm Up

(Use Whiteboards)

Determine the molar concentration of a solution in which 68.0g of NaCl is dissolved in 800. mL of water.

$C = ?$

$m = 68.0g$
    $NaCl$

$V = 800.mL$

$n = 1.16 mol$

$$68.0g\ NaCl \times \frac{1\ mol\ NaCl}{58.44\ g\ NaCl} = 1.16 mol\ NaCl$$

$$C = \frac{n}{V}$$

$$C = \frac{1.16 mol}{0.800\ L}$$

$$\boxed{1.45\ M}$$

$$\boxed{1.45\ mol/L}$$

What is the new concentration of a solution if 150. mL of water is used to dilute ==325 mL of a 0.450M== solution?

$V_i = 325 mL$

$C_i = 0.450 M$

$V_F = 475 mL$

$C_F = ?$

$$V_i C_i = V_F C_F$$

$$(325 mL)(0.450 M) = (475 mL) C_F$$

$$C_F = \frac{(325 mL)(0.450 M)}{(475 mL)}$$

$$\boxed{C_F = 0.308\ M}$$

Homework - Dilutions Worksheet

Worksheet