

Homework - Worksheet

Cu

$$n = 1 \text{ mol}$$

$$T_i = 1083^\circ\text{C}$$

$$m = (1 \text{ mol})(63.55 \text{ g/mol})$$

H₂O

$$n = 5 \text{ mol}$$

$$T_i = 20.0^\circ\text{C}$$

$$m = (5 \text{ mol})(18.02 \text{ g/mol})$$

$$q_{\text{Cu}} = -q_{\text{H}_2\text{O}}$$

$$m_{\text{Cu}} C \Delta T = -m_{\text{H}_2\text{O}} C \Delta T$$

$$(63.55 \text{ g})(0.385 \frac{\text{J}}{\text{g}^\circ\text{C}})(T_f - 1083^\circ\text{C}) =$$
$$-(90.10 \text{ g})(4.19 \frac{\text{J}}{\text{g}^\circ\text{C}})(T_f - 20.0^\circ\text{C})$$

$$24.47(T_f - 1083^\circ\text{C}) =$$

$$-377.5(T_f - 20.0^\circ\text{C})$$

$$24.47 T_f - 26501.01 = -377.5 T_f + 7550$$

$$24.47 T_f + 377.5 T_f = 26501.01 +$$
$$7550$$

$$401.97 T_f = 34051.01$$

$$T_f = 84.7^\circ\text{C}$$

$$2(4)(x-2) = -4(3)(x-3)$$

$$8(x-2) = -12(x-3)$$

$$8x - 16 = -12x + 36$$

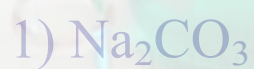
$$20x = 52$$

$$x = \frac{52}{20} = \frac{13}{5}$$

Calorimetry Worksheet #2

Pre-Lab

Find the molar mass of the following substances:



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