

Unit 6 - p. 160 # 62, 64

62. a) $M = \frac{\text{mol}}{L} = \frac{0.0772 \text{ mol}}{0.750 \text{ L}} = \boxed{0.103 \text{ M}}$

$$12.5 \text{ g Na}_2\text{CrO}_4 \times \frac{1 \text{ mol}}{162.0 \text{ g}} = 0.0772 \text{ mol}$$

b) $M = \frac{\text{mol}}{L}$ $0.112 \text{ M} = \frac{x \text{ mol}}{0.150 \text{ L}}$
 $x = \boxed{0.0168 \text{ mol KBr}}$

c) $M = \frac{\text{mol}}{L}$ $6.1 \text{ M} = \frac{0.150 \text{ mol}}{x \text{ L}}$ $6.1x = 0.150$
 $x = 0.025 \text{ L} = \boxed{25 \text{ mL}}$

64. have

$$0.118 \text{ M} = \frac{x \text{ mol}}{4.6 \text{ L}}$$

$$x = 0.54 \text{ mol NaCl}$$

want

$$0.138 \text{ M} = \frac{x \text{ mol}}{4.6 \text{ L}}$$

$$x = 0.63 \text{ mol NaCl}$$

$$0.63 \text{ mol} - 0.54 \text{ mol} = 0.0948 \text{ mol more}$$

$$0.0948 \text{ mol} \times \frac{58.5 \text{ g}}{1 \text{ mol}} = \boxed{5.5 \text{ g NaCl}}$$