SOLUTIONS 4

1

$$2\,KClO_{3(s)} \rightarrow 2\,KCl_{(s)} + 3\,O_{2(g)}$$

KNOWN — UNKNOWN

$1 \times 39.1 = 39.1$

$1 \times 35.5 = 35.5$

$3 \times 16 = 48$

122.6 g/mole

32 g/mole

KNOWN:

$$6.09\text{ g } KClO_3 \left[\frac{1\text{ mole } KClO_4}{122.6\text{ g } KClO_4}\right]$$

$= 0.0497$ moles of $KClO_3$

MULTIPLY BY STOICHIOMETRIC RATIO:

$$0.0497\text{ moles } KClO_3 \left[\frac{3\text{ mole } O_2}{2\text{ moles } KClO_3}\right]$$

$= \underline{0.0745}$ moles O_2