

ANSWERS TO SECTION 4.6 QUESTIONS

Try yourself 4.6

1) pH of 0.0295 M HNO_3

$$\begin{aligned}\text{pH} &= -\log[\text{H}^+] = -\log[\text{HNO}_3] \\ &= -\log 0.0295 \\ \text{pH} &= 1.53 \rightarrow\end{aligned}$$

2) pH of 0.040 M NaOH

Remember that this is an alkaline solution, so you can not work out the pH directly. You need to do a conversion.

$$[\text{OH}] = 0.040 \text{ M} \quad \therefore \text{pOH} = -\log 0.040 = 1.39 \rightarrow$$

$$\begin{aligned}\therefore \text{pH} + \text{pOH} &= 14 \\ \text{pH} &= 14 - \text{pOH} \\ &= 14 - 1.39 \\ &= 12.61 \rightarrow\end{aligned}$$