

- 1 A train leaves Zurich at 2240 and arrives in Vienna at 0732 the next day.

Work out the time taken.

$$\begin{array}{r}
 07.32 \\
 22.40 - \\
 \hline
 \end{array}
 \xrightarrow{+24h}
 \begin{array}{r}
 31.32 \\
 22.40 - \\
 \hline
 \end{array}
 \rightarrow
 \begin{array}{r}
 30.92 \\
 22.40 - \\
 \hline
 8.52
 \end{array}$$

..... 8 h 52 min [1]

- 2 From a sample of 80 batteries, 3 are faulty.

Work out the percentage of faulty batteries.

$$\frac{3}{80} \times 100\% = 3.75\%$$

..... 3.75 % [1]

- 3 Write 1.27×10^{-3} as an ordinary number.

$$0.00127$$

..... 0.00127 [1]

- 4 Calculate $(2.1 - 0.078)^{17}$, giving your answer correct to 4 significant figures.

$$\begin{aligned}
 (2.1 - 0.078)^{17} &= 157862.716... \\
 &\approx 157900
 \end{aligned}$$

..... 157900 [2]

- 5 Omar changes 2000 Saudi Arabian riyals (SAR) into euros (€) when the exchange rate is €1 = 5.087 SAR.

Work out how much Omar receives, giving your answer correct to the nearest euro.

$$\begin{aligned}
 \text{€1} &= 5.087 \text{ SAR} & \frac{1}{x} &= \frac{5.087}{2000} \\
 \text{€x} &2000 \text{ SAR} & 1 \cdot 2000 &= 5.087 \cdot x \\
 & & \frac{2000}{5.087} &= x \\
 & & x &= 393.159 \\
 & & x &\approx 393
 \end{aligned}$$

€ 393 [2]