

Multiple Choice Answers

Q14: B

Q15: A

Multiple Choice Answers

Q14: A

Q15: A

2(a)	M1 all initial temperatures correct (21.0, 21.5, 21.5, 22.0, 22.0) M2 all readings for temperature after one minute correct (29.0, 36.5, 33.5, 38.5, 46.0) M3 temperature changes correct (8.0, 15.0, 12.0, 16.5, 24.0) M4 all temperatures and temperature changes recorded to 1 decimal place
2(b)	M1 y-axis scale is linear, and points extend above halfway up the scale M2 and M3 all points plotted correctly M4 best fit curve correctly drawn
2(c)	M1 the larger the volume of acid, the lower the temperature (increase/change) M2 same amount of heat energy given out (as same length of magnesium and acid is in excess)
2(d)	M1 extrapolation shown on graph, this must be a smooth continuation of line M2 correct reading from their working shown on graph M3 °C
2(e)	sketched line is below plotted line for all volumes of acid and does not drop to or below zero
2(f)(i)	(burette is more) accurate (than a measuring cylinder)
2(f)(ii)	to mix them / to evenly distribute acid/heat energy
2(g)	M1 change: insulate the boiling tube M2 explanation: reduce/no heat loss

Multiple Choice Answers

Q13: C

Multiple Choice Answers

Q14: A

Multiple Choice Answers

Q13: D

Multiple Choice Answers

Q17: B