

Question	Marking guidance	Additional Comments/Guidelines	Mark
02.1	Idea that it is hard to judge to the nearest 0.01 second <i>or</i> Idea that it is hard to judge the exact moment (that it becomes too cloudy / the cross disappears) <i>or</i> the idea of reaction time	Ignore ideas relating to accuracy (unless qualified)	1
02.2	0.083(3....)		1
02.3	<p>M1 points plotted correctly (allow $\pm 1/2$ small square for each)</p> <p>M2 suitable best fit curve that misses point at 49°C and passes within one small square of the other five points</p>	<p>If any points plotted incorrectly: best fit line based on their plotted points which may need to be more than one square away from some points</p> <p>If no value calculated in 2.2, then M1 and M2 based on the other points (except the fifth anomalous point). A straight line may be allowed for M2 for the first four points.</p> <p>If incorrect value calculated in 2.2: M1 based on all values being plotted correctly; M2 based on suitable best fit line for the plotted points (except the fifth anomalous point).</p> <p>Penalise M2 if best fit line goes to 0,0.</p>	2

02.4	$\frac{1}{\text{value from their best fit line at } 40^{\circ}\text{C}}$	eg $\frac{1}{0.0345} = 29 \text{ (s)}$ Ignore units	1
02.5	as it forms a toxic gas or SO ₂ is toxic/poisonous or to limit amount of SO ₂ formed	Ignore reference to SO ₂ being harmful Ignore reference to acid rain / pollutant	1
02.6	reaction would take too long / too slow / take a long time / very slow	Ignore reaction may not occur Allow idea that it makes judging the moment when the cross disappears more difficult	1