

Question Number	Answer	Mark
8 (a)(i)	<ol style="list-style-type: none"> 1. (increasing or doubling nitrate ion concentration) decreased mitosis / negative correlation / eq ; 2. manipulation of the data (e.g. by 6 cells (per 500 cells) / reduces by 24%) ; 	(2)

Question Number	Answer	Mark
8 (a)(ii)	<ol style="list-style-type: none"> 1. only two concentrations were used / additional nitrate ion concentrations should be used ; 2. no {trend / eq} (as only 2 data sets) ; 3. If one of the two sets of data was {anomalous / eq} ; 4. reference to one with no nitrate ions present ; 	max (2)

Question Number	Answer	Mark
8 (a)(iii)	<p>Two appropriate safety risks given ; ;</p> <p>One appropriate precaution, linked to one of the risks above ;</p>	(3)

Question Number	Answer	Mark
8 (b)	<ol style="list-style-type: none"> 1. 3 + / sensible range of nitrate ion concentrations ; 2. reference to repeats (at each concentration) ; 3. reference to uniformity of seedlings (e.g. all from same parent plant, same age, same original root length) ; 4. idea that solution used should contain other mineral ions / named mineral ions ; 5. mention one other variable maintained / kept constant (e.g. temp, all run for same length of time, light intensity, volume of mineral solution) ; 6. reference to mechanism of judging root {growth /eq} (to measure optimum nitrate concentration) ; 	max (3)