



0 1.2	1.2 Copper is produced at the negative electrode (cathode). What does this tell you about the reactivity of copper? Tick one box. Copper is less reactive than hydrogen								
	Copper is less reactive than oxygen Copper is more reactive than carbon Copper is more reactive than chlorine								
Table 1 shows the student's results. Table 1									
	Total mass of copper produced in mg								
	Time in mins	Experiment 1	Experiment 2	Experiment 3	Mean				
	1	0.60	0.58	0.62	0.60				
	2	1.17	1.22	1.21	1.20				
	4	2.40	2.41	2.39	2.40				
	5	3.02	X	3.01	3.06				
0 1 . 3 Determine the mean mass of copper produced after 3 minutes. [1 mark]									
			Mass =		mg				
Question 1 continues on the next page									
					Turn over ►				



0 1.4	Calculate the mass X of copper produced in Experiment 2 after 5 minutes.				
	Use Table 1 on page 3 [2 marks]				
	Mass X = mg				
0 1.5	The copper chloride solution used in the investigation contained 300 grams per dm^3 of solid CuCl ₂ dissolved in 1 dm^3 of water.				
	The student used 50 cm ³ of copper chloride solution in each experiment.				
	Calculate the mass of solid copper chloride used in each experiment. [3 marks]				
	Mass = g				
		8			



Question	Answers	Extra information	Mark	AO / Spec. Ref.
01.1	chlorine		1	AO2 5.4.3.4
01.2	copper is less reactive than hydrogen		1	AO2 5.4.3.4
01.3	1.8 (mg)	allow an answer in range 1.7– 1.9	1	AO3 5.4.3.4
01.4		an answer of 3.15 (mg) scores 2 marks		AO2 5.4.3.4
	$\frac{3.02 + 3.01 + x}{3} = 3.06$	allow any other suitable method	1	
	3.15 (mg)		1	
		if no other mark awarded allow 9.18 for 1 mark		
01.5		an answer of 15 (g) scores 3 marks		AO2 5.3.2.5
	$\frac{50}{1000}$ or $\frac{1}{20}$ or 0.05		1	
	(0.05) × 300	the second mark is dependent on the first mark being scored	1	
	15 (g)		1	
	or $\frac{300}{1000}$ or $\frac{3}{10}$ or 0.03 (1) (0.3) × 50 (1) 15 (g) (1)	the second mark is dependent on the first mark being scored if no other mark awarded allow 150 or 15 000 for 1 mark		
Total			8	