

Atomic structure

Mark scheme

1.	(a)	both correct in each row	1	
		electron ...- (1) <i>allow negative</i>		
		1 0 <i>allow neutral or none</i>	1	
		proton+ (1) <i>allow positive</i>	1	
	(b)	(i) protons...electrons	1	
		<i>both correct in correct order</i>		
		(ii) protons....neutrons	1	
		<i>both correct in either order</i>		[5]
2.	(i)	same number of protons and electrons	1	
		<i>accept equal numbers of protons and electrons</i>		
		<i>do not accept they are neutral</i>		
	(ii)	same element <i>accept all atoms are potassium</i>	1	
		same number of protons	1	
		<i>accept same atomic number</i>		
		<i>accept they all have 19+</i>		
		different number of neutrons	1	
		<i>accept different mass numbers</i>		
		<i>do not accept different atomic masses</i>		[4]
3.	(a)	152	2	
		correct answer with or without working = 2 marks		
		56 + 32 + (4 × 16) gains 1 mark		
		<i>ignore any units</i>		
	(b)	152g(rams)	1	
		<i>ecf from the answer to (a) and g</i>		
		<i>must have unit g / gram / gramme / grams etc</i>		
		<i>accept g / mol or g per mole or g mole⁻¹ or g/mol or g per mol or g mol⁻¹</i>		
		<i>do not accept g m</i>		
		<i>do not accept G</i>		
		<i>ignore units</i>		[3]