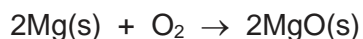


GCSE Chemistry A (Gateway Science)
J248/03 C1-C3 and C7 Higher (Higher Tier)

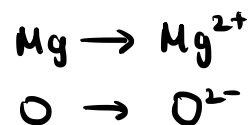
Question Set 28

1 Magnesium burns in oxygen to make magnesium oxide.

The reaction involves both oxidation and reduction.



magnesium + oxygen \rightarrow magnesium oxide



(a) **Complete** the sentences.

During this reaction, the oxidising agent is oxygen

The reducing agent is magnesium [1]

(b) Magnesium has an atomic number of 12.

Calculate the mean mass of an atom of magnesium.

Quote your answer to 3 significant figures.

(Avogadro constant = 6.022×10^{23} atoms per mole)

$$\frac{24.3}{6.022 \times 10^{23}} = \underline{4.04 \times 10^{-23}} \quad \text{Answer} = \dots\dots\dots \underline{4.04 \times 10^{-23}} \text{ g} \quad [2]$$

Total Marks for Question Set 28: 3

The Periodic Table of the Elements

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	(14)	(15)	(16)	(17)	(18)																																																									
Key																																																																										
atomic number																																																																										
Symbol																																																																										
name																																																																										
relative atomic mass																																																																										
1	H	hydrogen	1.0															2	He	helium	4.0																																																					
3	Li	lithium	6.9	4	Be	beryllium	9.0															10	Ne	neon	20.2																																																	
11	Na	sodium	23.0	12	Mg	magnesium	24.3															17	Cl	chlorine	35.5																																																	
19	K	potassium	39.1	20	Ca	calcium	40.1	21	Sc	scandium	45.0	22	Ti	titanium	47.9	23	V	vanadium	50.9	24	Cr	chromium	52.0	25	Mn	manganese	54.9	26	Fe	iron	55.8	27	Co	cobalt	58.9	28	Ni	nickel	58.7	29	Cu	copper	63.5	30	Zn	zinc	65.4	31	Ga	gallium	69.7	32	Ge	germanium	72.6	33	As	arsenic	74.9	34	Se	selenium	79.0	35	Br	bromine	79.9	36	Kr	krypton	83.8			
37	Rb	rubidium	85.5	38	Sr	strontium	87.6	39	Y	yttrium	88.9	40	Zr	zirconium	91.2	41	Nb	niobium	92.9	42	Mo	molybdenum	95.9	43	Tc	technetium		44	Ru	ruthenium	101.1	45	Rh	rhodium	102.9	46	Pd	palladium	106.4	47	Ag	silver	107.9	48	Cd	cadmium	112.4	49	In	indium	114.8	50	Sn	tin	118.7	51	Sb	antimony	121.8	52	Te	tellurium	127.6	53	I	iodine	126.9	54	Xe	xenon	131.3			
55	Cs	caesium	132.9	56	Ba	barium	137.3	57-71	lanthanoids						72	Hf	hafnium	178.5	73	Ta	tantalum	180.9	74	W	tungsten	183.8	75	Re	rhenium	186.2	76	Os	osmium	190.2	77	Ir	iridium	192.2	78	Pt	platinum	195.1	79	Au	gold	197.0	80	Hg	mercury	200.6	81	Tl	thallium	204.4	82	Pb	lead	207.2	83	Bi	bismuth	209.0	84	Po	polonium		85	At	astatine		86	Rn	radon	
87	Fr	francium		88	Ra	radium		89-103	actinoids						104	Rf	rutherfordium		105	Db	dubnium		106	Sg	seaborgium		107	Bh	bohrium		108	Hs	hassium		109	Mt	meitnerium		110	Ds	darmstadtium		111	Rg	roentgenium		112	Cn	coppernium		113	Nh	nihonium		114	Fl	flerovium		115	Mc	moscovium		116	Lv	livermorium		117	Ts	tennessine		118	Og	oganeson	

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