

1. Find the mass of the following substances:

a) 2 moles of silver metal

b) 4.2 moles of water

c) 3.7 moles of oxygen gas

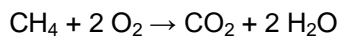
2. Find the number of moles of the following substances

a) 17 g of carbon

b) 300 g of carbon dioxide

c) 82 g sulphuric acid

3. Methane can burn in the presence of oxygen gas to produce carbon dioxide gas and water vapour. The chemical equation is:



a) how many moles of water can be produced by 4.8 mol of methane?

b) how many moles of carbon dioxide can be produced by 1.3 mol of oxygen gas?

c) What mass of methane is required to produce 150 g of water?

hydrogen 1 <b>H</b>	lithium 3 <b>Li</b>	beryllium 4 <b>Be</b>	boron 5 <b>B</b>	carbon 6 <b>C</b>	nitrogen 7 <b>N</b>	oxygen 8 <b>O</b>	fluorine 9 <b>F</b>	helium 2 <b>He</b>
1.0079	6.941	9.0122	10.811	12.011	14.007	15.999	18.998	4.0026
lithium 11 <b>Li</b>	sodium 11 <b>Na</b>	magnesium 12 <b>Mg</b>	aluminum 13 <b>Al</b>	silicon 14 <b>Si</b>	phosphorus 15 <b>P</b>	sulfur 16 <b>S</b>	chlorine 17 <b>Cl</b>	neon 10 <b>Ne</b>
6.941	22.990	24.305	26.982	28.086	30.974	32.065	35.453	20.180
potassium 19 <b>K</b>	calcium 20 <b>Ca</b>	scandium 21 <b>Sc</b>	titanium 22 <b>Ti</b>	vanadium 23 <b>V</b>	chromium 24 <b>Cr</b>	manganese 25 <b>Mn</b>	iron 26 <b>Fe</b>	nickel 28 <b>Ni</b>
39.098	40.078	44.956	47.867	50.942	51.996	54.938	55.845	58.693
rubidium 37 <b>Rb</b>	strontium 38 <b>Sr</b>	yttrium 39 <b>Y</b>	zirconium 40 <b>Zr</b>	niobium 41 <b>Nb</b>	molybdenum 42 <b>Mo</b>	technetium 43 <b>Tc</b>	ruthenium 44 <b>Ru</b>	palladium 46 <b>Pd</b>
85.468	87.62	88.906	91.224	92.906	95.94	[98]	101.07	106.42
caesium 55 <b>Cs</b>	barium 56 <b>Ba</b>	lutetium 71 <b>Lu</b>	hafnium 72 <b>Hf</b>	tantalum 73 <b>Ta</b>	tungsten 74 <b>W</b>	rhenium 75 <b>Re</b>	osmium 76 <b>Os</b>	platinum 78 <b>Pt</b>
132.91	137.33	174.97	178.49	180.95	183.84	186.21	190.23	195.08
francium 87 <b>Fr</b>	radium 88 <b>Ra</b>	lawrencium 103 <b>Lr</b>	rutherfordium 104 <b>Rf</b>	dubnium 105 <b>Db</b>	seaborgium 106 <b>Sg</b>	bohrium 107 <b>Bh</b>	hassium 108 <b>Hs</b>	ununnilium 110 <b>Uun</b>
[223]	[226]	103	104	105	106	107	108	110
		57-70	71	72-73	74	75	76	77-78
		*						
		89-102	103	104	105	106	107-108	109-110
		*						
		*						
		111	112	113	114	115	116	117
		Uuu	Uub	Uuq	Uuq	Uuq	Uuq	Uuq
		[289]	[271]	[268]	[266]	[264]	[269]	[289]

lanthanum 57 <b>La</b>	cerium 58 <b>Ce</b>	praseodymium 59 <b>Pr</b>	neodymium 60 <b>Nd</b>	promethium 61 <b>Pm</b>	samarium 62 <b>Sm</b>	europium 63 <b>Eu</b>	gadolinium 64 <b>Gd</b>	terbium 65 <b>Tb</b>	dysprosium 66 <b>Dy</b>	holmium 67 <b>Ho</b>	erbium 68 <b>Er</b>	thulium 69 <b>Tm</b>	ytterbium 70 <b>Yb</b>
138.91	140.12	140.91	144.24	[145]	150.36	151.96	157.25	158.93	162.50	164.93	167.26	168.93	173.04
actinium 89 <b>Ac</b>	thorium 90 <b>Th</b>	protactinium 91 <b>Pa</b>	uranium 92 <b>U</b>	neptunium 93 <b>Np</b>	plutonium 94 <b>Pu</b>	americium 95 <b>Am</b>	curium 96 <b>Cm</b>	berkelium 97 <b>Bk</b>	californium 98 <b>Cf</b>	einsteinium 99 <b>Es</b>	fermium 100 <b>Fm</b>	mendelevium 101 <b>Md</b>	nobelium 102 <b>No</b>
[227]	232.04	231.04	238.03	[237]	[244]	[243]	[247]	[247]	[251]	[252]	[257]	[258]	[259]

\* Lanthanide series

\* \* Actinide series