

0	1
---	---

Using the data table attached, calculate the formula mass of the following compounds:

0	1
---	---

.	1
---	---

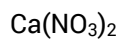


[2 marks]

.....

0	1
---	---

.	2
---	---

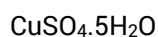


[2 marks]

.....

0	1
---	---

.	3
---	---



[2 marks]

.....

Calculate the mass of the following compounds:

0	1
---	---

.	4
---	---

0.1 moles of  $\text{SO}_3$

[1 mark]

.....

.....

0	1
---	---

.	5
---	---

4 moles of  $\text{Ca}(\text{NO}_3)_2$

[1 mark]

.....

.....

0	2
---	---

Calculate the number moles present in:

0	2
---	---

.	1
---	---

6g of carbon?

[2 marks]

.....

.....

0	2
---	---

.	2
---	---

8g of sodium hydroxide?

[2 marks]

.....

.....

**Questions continue on the next page...**

0 3

1

Describe what you understand by the term Avogadro's number

[1 mark]

.....  
.....

0 3

2

How many moles of oxygen atoms are there in 500g of CaCO<sub>3</sub>?

[3 marks]

.....  
.....  
.....  
.....

(Total 16 marks)

**End of Question**  
**See next page for Data Sheet**

1		2		3		4		5		6		7		0																																																																					
7	<b>Li</b> lithium 3	9	<b>Be</b> beryllium 4	11	<b>Na</b> sodium 11	12	<b>C</b> carbon 6	13	<b>Al</b> aluminium 13	14	<b>N</b> nitrogen 7	15	<b>O</b> oxygen 8	16	<b>F</b> fluorine 9	17	<b>Ne</b> neon 10																																																																		
23	<b>Na</b> sodium 11	24	<b>Mg</b> magnesium 12	39	<b>K</b> potassium 19	40	<b>Ca</b> calcium 20	79	<b>Se</b> selenium 34	80	<b>Br</b> bromine 35	81	<b>Kr</b> krypton 36	82	<b>Pb</b> lead 82	83	<b>Bi</b> bismuth 83	84	<b>Po</b> polonium 84	85	<b>At</b> astatine 85	86	<b>Rn</b> radon 86																																																												
37	<b>Rb</b> rubidium 37	38	<b>Sr</b> strontium 38	85	<b>Rb</b> rubidium 37	86	<b>Sr</b> strontium 38	119	<b>In</b> indium 49	120	<b>Cd</b> cadmium 48	121	<b>Hg</b> mercury 80	122	<b>Sb</b> antimony 51	123	<b>Te</b> tellurium 52	124	<b>I</b> iodine 53	125	<b>Xe</b> xenon 54	126	<b>Ba</b> barium 56	127	<b>La</b> lanthanum 57	128	<b>Ce</b> cerium 58	129	<b>Pr</b> praseodymium 59	130	<b>Nd</b> neodymium 60	131	<b>Pm</b> promethium 61	132	<b>Sm</b> samarium 62	133	<b>Eu</b> europium 63	134	<b>Gd</b> gadolinium 64	135	<b>Tb</b> terbium 65	136	<b>Dy</b> dysprosium 66	137	<b>Ho</b> holmium 67	138	<b>Er</b> erbium 68	139	<b>Tm</b> thulium 69	140	<b>Yb</b> ytterbium 70	141	<b>Lu</b> lutetium 71	142	<b>Hf</b> hafnium 72	143	<b>Ta</b> tantalum 73	144	<b>W</b> tungsten 74	145	<b>Re</b> rhenium 75	146	<b>Os</b> osmium 76	147	<b>Ir</b> iridium 77	148	<b>Pt</b> platinum 78	149	<b>Au</b> gold 79	150	<b>Hg</b> mercury 80	151	<b>Tl</b> thallium 81	152	<b>Pb</b> lead 82	153	<b>Bi</b> bismuth 83	154	<b>Po</b> polonium 84	155	<b>At</b> astatine 85	156	<b>Rn</b> radon 86
87	<b>Fr</b> francium 87	88	<b>Ra</b> radium 88	89	<b>Ac</b> actinium 89	90	<b>Th</b> thorium 90	91	<b>Pa</b> protactinium 91	92	<b>U</b> uranium 92	93	<b>Np</b> neptunium 93	94	<b>Pu</b> plutonium 94	95	<b>Am</b> americium 95	96	<b>Cm</b> curium 96	97	<b>Bk</b> berkelium 97	98	<b>Cf</b> californium 98	99	<b>Es</b> einsteinium 99	100	<b>Fm</b> fermium 100	101	<b>Mendelevium</b> 101	102	<b>No</b> nobelium 102	103	<b>Lr</b> lawrencium 103	104	<b>Rf</b> rutherfordium 104	105	<b>Db</b> dubnium 105	106	<b>Sg</b> seaborgium 106	107	<b>Bh</b> bohrium 107	108	<b>Hs</b> hassium 108	109	<b>Mt</b> meitnerium 109	110	<b>Ds</b> darmstadtium 110	111	<b>Rg</b> roentgenium 111																																		
101	<b>Bi</b> bismuth 83	102	<b>Po</b> polonium 84	103	<b>At</b> astatine 85	104	<b>Rn</b> radon 86	105	<b>Fr</b> francium 87	106	<b>Ra</b> radium 88	107	<b>Ac</b> actinium 89	108	<b>Th</b> thorium 90	109	<b>Pa</b> protactinium 91	110	<b>U</b> uranium 92	111	<b>Np</b> neptunium 93	112	<b>Pu</b> plutonium 94	113	<b>Am</b> americium 95	114	<b>Cm</b> curium 96	115	<b>Bk</b> berkelium 97	116	<b>Cf</b> californium 98	117	<b>Es</b> einsteinium 99	118	<b>Fm</b> fermium 100	119	<b>Mendelevium</b> 101	120	<b>No</b> nobelium 102	121	<b>Lr</b> lawrencium 103	122	<b>Rf</b> rutherfordium 104	123	<b>Db</b> dubnium 105	124	<b>Sg</b> seaborgium 106	125	<b>Bh</b> bohrium 107	126	<b>Hs</b> hassium 108	127	<b>Mt</b> meitnerium 109	128	<b>Ds</b> darmstadtium 110	129	<b>Rg</b> roentgenium 111																										
109	<b>Bi</b> bismuth 83	110	<b>Po</b> polonium 84	111	<b>At</b> astatine 85	112	<b>Rn</b> radon 86	113	<b>Fr</b> francium 87	114	<b>Ra</b> radium 88	115	<b>Ac</b> actinium 89	116	<b>Th</b> thorium 90	117	<b>Pa</b> protactinium 91	118	<b>U</b> uranium 92	119	<b>Np</b> neptunium 93	120	<b>Pu</b> plutonium 94	121	<b>Am</b> americium 95	122	<b>Cm</b> curium 96	123	<b>Bk</b> berkelium 97	124	<b>Cf</b> californium 98	125	<b>Es</b> einsteinium 99	126	<b>Fm</b> fermium 100	127	<b>Mendelevium</b> 101	128	<b>No</b> nobelium 102	129	<b>Lr</b> lawrencium 103	130	<b>Rf</b> rutherfordium 104	131	<b>Db</b> dubnium 105	132	<b>Sg</b> seaborgium 106	133	<b>Bh</b> bohrium 107	134	<b>Hs</b> hassium 108	135	<b>Mt</b> meitnerium 109	136	<b>Ds</b> darmstadtium 110	137	<b>Rg</b> roentgenium 111																										
117	<b>Bi</b> bismuth 83	118	<b>Po</b> polonium 84	119	<b>At</b> astatine 85	120	<b>Rn</b> radon 86	121	<b>Fr</b> francium 87	122	<b>Ra</b> radium 88	123	<b>Ac</b> actinium 89	124	<b>Th</b> thorium 90	125	<b>Pa</b> protactinium 91	126	<b>U</b> uranium 92	127	<b>Np</b> neptunium 93	128	<b>Pu</b> plutonium 94	129	<b>Am</b> americium 95	130	<b>Cm</b> curium 96	131	<b>Bk</b> berkelium 97	132	<b>Cf</b> californium 98	133	<b>Es</b> einsteinium 99	134	<b>Fm</b> fermium 100	135	<b>Mendelevium</b> 101	136	<b>No</b> nobelium 102	137	<b>Lr</b> lawrencium 103	138	<b>Rf</b> rutherfordium 104	139	<b>Db</b> dubnium 105	140	<b>Sg</b> seaborgium 106	141	<b>Bh</b> bohrium 107	142	<b>Hs</b> hassium 108	143	<b>Mt</b> meitnerium 109	144	<b>Ds</b> darmstadtium 110	145	<b>Rg</b> roentgenium 111																										
125	<b>Bi</b> bismuth 83	126	<b>Po</b> polonium 84	127	<b>At</b> astatine 85	128	<b>Rn</b> radon 86	129	<b>Fr</b> francium 87	130	<b>Ra</b> radium 88	131	<b>Ac</b> actinium 89	132	<b>Th</b> thorium 90	133	<b>Pa</b> protactinium 91	134	<b>U</b> uranium 92	135	<b>Np</b> neptunium 93	136	<b>Pu</b> plutonium 94	137	<b>Am</b> americium 95	138	<b>Cm</b> curium 96	139	<b>Bk</b> berkelium 97	140	<b>Cf</b> californium 98	141	<b>Es</b> einsteinium 99	142	<b>Fm</b> fermium 100	143	<b>Mendelevium</b> 101	144	<b>No</b> nobelium 102	145	<b>Lr</b> lawrencium 103	146	<b>Rf</b> rutherfordium 104	147	<b>Db</b> dubnium 105	148	<b>Sg</b> seaborgium 106	149	<b>Bh</b> bohrium 107	150	<b>Hs</b> hassium 108	151	<b>Mt</b> meitnerium 109	152	<b>Ds</b> darmstadtium 110	153	<b>Rg</b> roentgenium 111																										
133	<b>Bi</b> bismuth 83	134	<b>Po</b> polonium 84	135	<b>At</b> astatine 85	136	<b>Rn</b> radon 86	137	<b>Fr</b> francium 87	138	<b>Ra</b> radium 88	139	<b>Ac</b> actinium 89	140	<b>Th</b> thorium 90	141	<b>Pa</b> protactinium 91	142	<b>U</b> uranium 92	143	<b>Np</b> neptunium 93	144	<b>Pu</b> plutonium 94	145	<b>Am</b> americium 95	146	<b>Cm</b> curium 96	147	<b>Bk</b> berkelium 97	148	<b>Cf</b> californium 98	149	<b>Es</b> einsteinium 99	150	<b>Fm</b> fermium 100	151	<b>Mendelevium</b> 101	152	<b>No</b> nobelium 102	153	<b>Lr</b> lawrencium 103	154	<b>Rf</b> rutherfordium 104	155	<b>Db</b> dubnium 105	156	<b>Sg</b> seaborgium 106	157	<b>Bh</b> bohrium 107	158	<b>Hs</b> hassium 108	159	<b>Mt</b> meitnerium 109	160	<b>Ds</b> darmstadtium 110	161	<b>Rg</b> roentgenium 111																										
141	<b>Bi</b> bismuth 83	142	<b>Po</b> polonium 84	143	<b>At</b> astatine 85	144	<b>Rn</b> radon 86	145	<b>Fr</b> francium 87	146	<b>Ra</b> radium 88	147	<b>Ac</b> actinium 89	148	<b>Th</b> thorium 90	149	<b>Pa</b> protactinium 91	150	<b>U</b> uranium 92	151	<b>Np</b> neptunium 93	152	<b>Pu</b> plutonium 94	153	<b>Am</b> americium 95	154	<b>Cm</b> curium 96	155	<b>Bk</b> berkelium 97	156	<b>Cf</b> californium 98	157	<b>Es</b> einsteinium 99	158	<b>Fm</b> fermium 100	159	<b>Mendelevium</b> 101	160	<b>No</b> nobelium 102	161	<b>Lr</b> lawrencium 103	162	<b>Rf</b> rutherfordium 104	163	<b>Db</b> dubnium 105	164	<b>Sg</b> seaborgium 106	165	<b>Bh</b> bohrium 107	166	<b>Hs</b> hassium 108	167	<b>Mt</b> meitnerium 109	168	<b>Ds</b> darmstadtium 110	169	<b>Rg</b> roentgenium 111																										
149	<b>Bi</b> bismuth 83	150	<b>Po</b> polonium 84	151	<b>At</b> astatine 85	152	<b>Rn</b> radon 86	153	<b>Fr</b> francium 87	154	<b>Ra</b> radium 88	155	<b>Ac</b> actinium 89	156	<b>Th</b> thorium 90	157	<b>Pa</b> protactinium 91	158	<b>U</b> uranium 92	159	<b>Np</b> neptunium 93	160	<b>Pu</b> plutonium 94	161	<b>Am</b> americium 95	162	<b>Cm</b> curium 96	163	<b>Bk</b> berkelium 97	164	<b>Cf</b> californium 98	165	<b>Es</b> einsteinium 99	166	<b>Fm</b> fermium 100	167	<b>Mendelevium</b> 101	168	<b>No</b> nobelium 102	169	<b>Lr</b> lawrencium 103	170	<b>Rf</b> rutherfordium 104	171	<b>Db</b> dubnium 105	172	<b>Sg</b> seaborgium 106	173	<b>Bh</b> bohrium 107	174	<b>Hs</b> hassium 108	175	<b>Mt</b> meitnerium 109	176	<b>Ds</b> darmstadtium 110	177	<b>Rg</b> roentgenium 111																										
157	<b>Bi</b> bismuth 83	158	<b>Po</b> polonium 84	159	<b>At</b> astatine 85	160	<b>Rn</b> radon 86	161	<b>Fr</b> francium 87	162	<b>Ra</b> radium 88	163	<b>Ac</b> actinium 89	164	<b>Th</b> thorium 90	165	<b>Pa</b> protactinium 91	166	<b>U</b> uranium 92	167	<b>Np</b> neptunium 93	168	<b>Pu</b> plutonium 94	169	<b>Am</b> americium 95	170	<b>Cm</b> curium 96	171	<b>Bk</b> berkelium 97	172	<b>Cf</b> californium 98	173	<b>Es</b> einsteinium 99	174	<b>Fm</b> fermium 100	175	<b>Mendelevium</b> 101	176	<b>No</b> nobelium 102	177	<b>Lr</b> lawrencium 103	178	<b>Rf</b> rutherfordium 104	179	<b>Db</b> dubnium 105	180	<b>Sg</b> seaborgium 106	181	<b>Bh</b> bohrium 107	182	<b>Hs</b> hassium 108	183	<b>Mt</b> meitnerium 109	184	<b>Ds</b> darmstadtium 110	185	<b>Rg</b> roentgenium 111																										
165	<b>Bi</b> bismuth 83	166	<b>Po</b> polonium 84	167	<b>At</b> astatine 85	168	<b>Rn</b> radon 86	169	<b>Fr</b> francium 87	170	<b>Ra</b> radium 88	171	<b>Ac</b> actinium 89	172	<b>Th</b> thorium 90	173	<b>Pa</b> protactinium 91	174	<b>U</b> uranium 92	175	<b>Np</b> neptunium 93	176	<b>Pu</b> plutonium 94	177	<b>Am</b> americium 95	178	<b>Cm</b> curium 96	179	<b>Bk</b> berkelium 97	180	<b>Cf</b> californium 98	181	<b>Es</b> einsteinium 99	182	<b>Fm</b> fermium 100	183	<b>Mendelevium</b> 101	184	<b>No</b> nobelium 102	185	<b>Lr</b> lawrencium 103	186	<b>Rf</b> rutherfordium 104	187	<b>Db</b> dubnium 105	188	<b>Sg</b> seaborgium 106	189	<b>Bh</b> bohrium 107	190	<b>Hs</b> hassium 108	191	<b>Mt</b> meitnerium 109	192	<b>Ds</b> darmstadtium 110	193	<b>Rg</b> roentgenium 111																										
173	<b>Bi</b> bismuth 83	174	<b>Po</b> polonium 84	175	<b>At</b> astatine 85	176	<b>Rn</b> radon 86	177	<b>Fr</b> francium 87	178	<b>Ra</b> radium 88	179	<b>Ac</b> actinium 89	180	<b>Th</b> thorium 90	181	<b>Pa</b> protactinium 91	182	<b>U</b> uranium 92	183	<b>Np</b> neptunium 93	184	<b>Pu</b> plutonium 94	185	<b>Am</b> americium 95	186	<b>Cm</b> curium 96	187	<b>Bk</b> berkelium 97	188	<b>Cf</b> californium 98	189	<b>Es</b> einsteinium 99	190	<b>Fm</b> fermium 100	191	<b>Mendelevium</b> 101	192	<b>No</b> nobelium 102	193	<b>Lr</b> lawrencium 103	194	<b>Rf</b> rutherfordium 104	195	<b>Db</b> dubnium 105	196	<b>Sg</b> seaborgium 106	197	<b>Bh</b> bohrium 107	198	<b>Hs</b> hassium 108	199	<b>Mt</b> meitnerium 109	200	<b>Ds</b> darmstadtium 110	201	<b>Rg</b> roentgenium 111																										
181	<b>Bi</b> bismuth 83	182	<b>Po</b> polonium 84	183	<b>At</b> astatine 85	184	<b>Rn</b> radon 86	185	<b>Fr</b> francium 87	186	<b>Ra</b> radium 88	187	<b>Ac</b> actinium 89	188	<b>Th</b> thorium 90	189	<b>Pa</b> protactinium 91	190	<b>U</b> uranium 92	191	<b>Np</b> neptunium 93	192	<b>Pu</b> plutonium 94	193	<b>Am</b> americium 95	194	<b>Cm</b> curium 96	195	<b>Bk</b> berkelium 97	196	<b>Cf</b> californium 98	197	<b>Es</b> einsteinium 99	198	<b>Fm</b> fermium 100	199	<b>Mendelevium</b> 101	200	<b>No</b> nobelium 102	201	<b>Lr</b> lawrencium 103	202	<b>Rf</b> rutherfordium 104	203	<b>Db</b> dubnium 105	204	<b>Sg</b> seaborgium 106	205	<b>Bh</b> bohrium 107	206	<b>Hs</b> hassium 108	207	<b>Mt</b> meitnerium 109	208	<b>Ds</b> darmstadtium 110																												