

### 3 M PRACTICE (MOLES, MOLECULES, AND MASS)

#### ANSWERS

	atoms		moles
1	$1.81 \times 10^{24}$	11	1
2	$3 \times 10^{23}$	12	1
3	$6.022 \times 10^{23}$	13	1
4	$1.3 \times 10^{24}$	14	0.279
5	$5.42 \times 10^{23}$	15	14.7
6	$4 \times 10^{23}$	16	$4.20 \times 10^{-3}$
7	$7.2 \times 10^{23}$	17	794
8	$9.6 \times 10^{23}$	18	0.0872
9	$2.4 \times 10^{24}$	19	0.284
10	$6 \times 10^{21}$	20	$1.25 \times 10^3$

	atoms		grams
21	$6.022 \times 10^{23}$	31	16.00 g
22	$4.2 \times 10^{23}$	32	20.18 g
23	$1.8 \times 10^{23}$	33	55.85 g
24	$4.5 \times 10^{22}$	34	5.30 g
25	$9.0 \times 10^{22}$	35	176 g
26	$1.40 \times 10^{23}$	36	0.113 g
27	$2.48 \times 10^{23}$	37	$2.23 \times 10^4$ g
28	$9.5 \times 10^{22}$	38	1.04 g
29	$5.8 \times 10^{23}$	39	2.56 g
30	$4.73 \times 10^{23}$	40	$8.47 \times 10^3$ g

	moles		grams
41	1	51	12.01 g
42	0.06	52	570 g
43	0.32	53	30 g
44	0.08	54	24 g
45	$5.1 \times 10^{-3}$	55	21 g
46	0.062	56	59 g
47	1.78	57	72 g
48	13	58	4 g
49	0.50	59	88 g
50	0.017	60	65 g

	grams	atoms	moles
61	63.6 g	$6.02 \times 10^{23}$ atoms	<b>1.00 mole copper</b>
62	2.45 g	<b><math>3.68 \times 10^{23}</math> atoms helium</b>	0.611 moles
63	<b>16 g chlorine</b>	$2.7 \times 10^{23}$ atoms	0.45 moles
64	147 g	<b><math>7.35 \times 10^{24}</math> atoms carbon</b>	12.2 moles
65	3.6 g	$5.4 \times 10^{23}$ atoms	<b>0.90 moles helium</b>
66	<b>1.7 g aluminum</b>	$3.8 \times 10^{22}$ atoms	0.063 moles
67	0.161 g	<b><math>8.99 \times 10^{21}</math> atoms boron</b>	0.0149 moles
68	32 g	$9.6 \times 10^{23}$ atoms	<b>1.6 moles neon</b>
69	<b>22 g oxygen</b>	$8.3 \times 10^{23}$ atoms	1.4 moles
70	8.6 g	$2.7 \times 10^{23}$ atoms	<b>0.45 moles fluorine</b>