

Physics 100 - Spring 2009 - Problem Set 6

- ① 2-6, p. 49, conc. exercise
- ② 2-7, p. 49, Conc. ex.
- ③ 2-10, p. 49 ^{conc. ex.} the attached periodic chart might be helpful in doing this problem
- ④ 2-12, p. 49 conc. ex.
- ⑤ 14-2, p. 350 conc. ex.
- ⑥ 14-3, p. 350 conc. ex.
- ⑦ 14-5, p. 350 conc. ex.
- ⑧ 14-8, p. 350 conc. ex.
- ⑨ 14-16, p. 350 conc. ex.
- ⑩ 14-21, p. 350 conc. ex.
- ⑪ 14-1, p. 351, Problem
- ⑫ 14-2, p. 351, Problem
- ⑬ What is quantum entanglement?

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Periodic Table of the Elements

1A	2A	3A	4A	5A	6A	7A	8A
1 H hydrogen 1.008	4 Be beryllium 9.012	5 B boron 10.81	6 C carbon 12.01	7 N nitrogen 14.01	8 O oxygen 16.00	9 F fluorine 19.00	10 Ne neon 20.18
3 Li lithium 6.941	12 Mg magnesium 24.31	13 Al aluminum 26.98	14 Si silicon 28.09	15 P phosphorus 30.97	16 S sulfur 32.07	17 Cl chlorine 35.45	18 Ar argon 39.95
19 K potassium 39.10	20 Ca calcium 40.08	31 Ga gallium 69.72	32 Ge germanium 72.64	33 As arsenic 74.92	34 Se selenium 78.96	35 Br bromine 79.90	36 Kr krypton 83.80
37 Rb rubidium 85.47	38 Sr strontium 87.62	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 cesium 132.9	56 Ba barium 137.3	81 Tl thallium 204.4	82 Pb lead 207.2	83 Bi bismuth 208.98	84 Po polonium [209]	85 At astatine [210]	86 Rn radon [222]
87 Fr francium [223]	88 Ra radium [226]	113 In indium [208]	114 Po polonium [209]	115 At astatine [210]	116 Lv livermorium [293]	117 Ts tennessine [294]	118 Og oganesson [294]

58 Ce cerium 140.1	59 Pr praseodymium 140.9	60 Nd neodymium 144.2	61 Pm promethium [145]	62 Sm samarium 150.4	63 Eu europium 152.0	64 Gd gadolinium 157.3	65 Tb terbium 158.9	66 Dy dysprosium 162.5	67 Ho holmium 164.9	68 Er erbium 167.3	69 Tm thulium 168.9	70 Yb ytterbium 173.0	71 Lu lutetium 175.0
90 Th thorium 232.0	91 Pa protactinium 231.0	92 U uranium 238.0	93 Np neptunium 237.0	94 Pu plutonium 244.0	95 Am americium 243.0	96 Cm curium 247.0	97 Bk berkelium 247.0	98 Cf californium 251.0	99 Es einsteinium 252.0	100 Fm fermium 257.0	101 Md mendelevium 258.0	102 No nobelium 259.0	103 Lr lawrencium 260.0

Lanthanide Series*

Actinide Series**

element names in **blue** are liquids at room temperature
element names in **red** are gases at room temperature
element names in **black** are solids at room temperature