

Physics 100 - Spring 2007 - Problem Set 6

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 - ⑬ What is quantum entanglement?
- The attached periodic chart might be helpful in doing this problem.

Los Alamos National Laboratory Chemistry Division

Periodic Table of the Elements

1A	2A	3B	4B	5B	6B	7B	8B	11B	12B	3A	4A	5A	6A	7A	8A																																																																					
1 H hydrogen 1.008	4 Be beryllium 9.012	21 Sc scandium 44.956	22 Ti titanium 47.88	23 V vanadium 50.94	24 Cr chromium 52.00	25 Mn manganese 54.94	26 Fe iron 55.85	27 Co cobalt 58.93	28 Ni nickel 58.69	29 Cu copper 63.55	30 Zn zinc 65.38	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	39 Y yttrium 88.91	40 Zr zirconium 91.22	41 Nb niobium 92.91	42 Mo molybdenum 95.94	43 Tc technetium (99)	44 Ru ruthenium 101.1	45 Rh rhodium 101.07	46 Pd palladium 106.42	47 Ag silver 107.87	48 Cd cadmium 112.41	49 In indium 114.82	50 Sn tin 118.71	51 Sb antimony 121.76	52 Te tellurium 127.6	53 I iodine 126.91	54 Xe xenon 131.3	55 Cs cesium 132.91	56 Ba barium 137.33	57 La* lanthanum 138.91	58 Ce cerium 140.12	59 Pr praseodymium 140.91	60 Nd neodymium 144.24	61 Pm promethium (145)	62 Sm samarium 150.36	63 Eu europium 151.96	64 Gd gadolinium 157.25	65 Tb terbium 158.93	66 Dy dysprosium 162.50	67 Ho holmium 164.93	68 Er erbium 167.26	69 Tm thulium 168.93	70 Yb ytterbium 173.05	71 Lu lutetium 174.967	87 Fr francium 223	88 Ra radium 226	89 Ac~ actinium 227	90 Th thorium 232.04	91 Pa protactinium 231	92 U uranium 238.03	93 Np neptunium 237	94 Pu plutonium 244	95 Am americium 243	96 Cm curium 247	97 Bk berkelium 247	98 Cf californium 251	99 Es einsteinium 252	100 Fm fermium 257	101 Md mendelevium 258	102 No nobelium 259	103 Lr lawrencium 260	104 Rf rutherfordium 261	105 Db dubnium 262	106 Sg seaborgium 263	107 Bh bohrium 264	108 Hs hassium 265	109 Mt meitnerium 266	110 Ds darmstadtium 271	111 Uuu unnilium 272	112 Uub ununium 277	113 Uuq ununium 284	114 Uuq ununium 284	115 Uuh ununium 285	116 Uuo ununium 286	117 Uue ununium 289	118 Uuo ununium 291

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

Lanthanide Series*

Actinide Series~