

Pg. 492 #1, 3

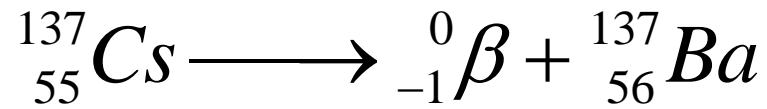
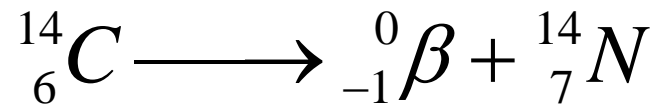
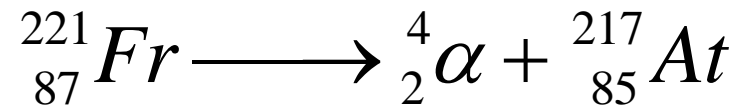
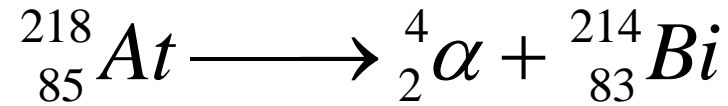
#1

- a. 17 protons, 18 neutrons, 35 nucleons
- b. 88 protons, 138 neutrons, 226 nucleons

#3

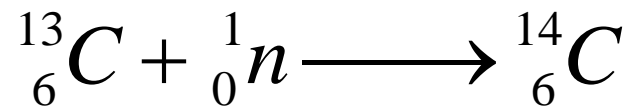
Upon losing an alpha particle, the mass of the isotope is reduced by 4 and the atomic number is reduced by 2.

Pg. 492 #5, 7

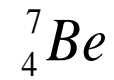
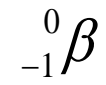


Pg. 492 #9, 11

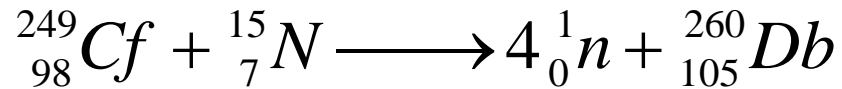
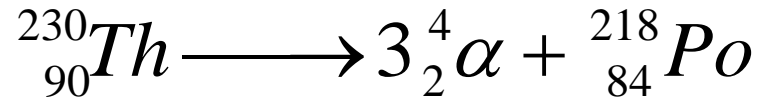
- a. Alpha decay
- b. Positron decay/gamma decay
- c. Beta decay



Pg. 492 #13



Pg. 492-3 #17, 23



Pg. 493 #27

$$A = A_0 \frac{1}{2}^{\left(\frac{t}{t_{half}}\right)}$$

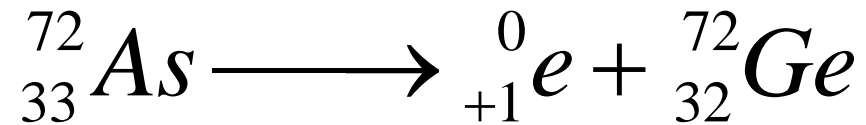
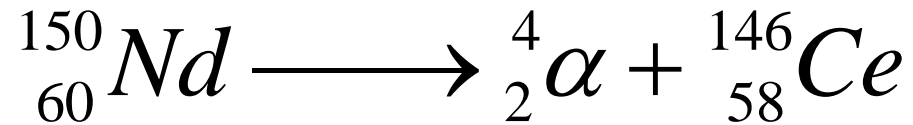
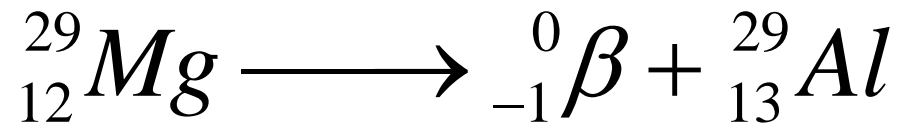
$$0.500 = (16.0) \frac{1}{2}^{\left(\frac{90}{x}\right)}$$

$$0.03125 = \frac{1}{2}^{\left(\frac{90}{x}\right)}$$

$$\frac{1}{2}^5 = 0.03125 = \frac{90}{18}$$

half - life = 18 m

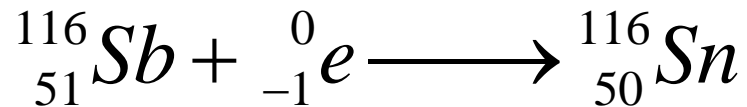
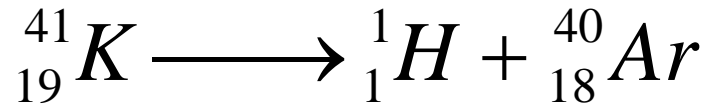
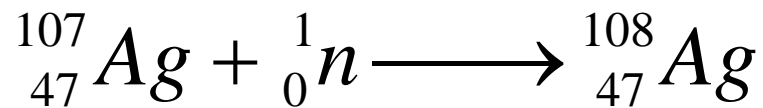
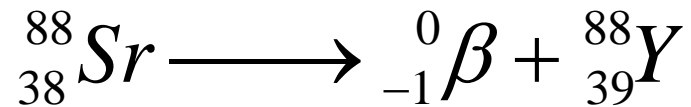
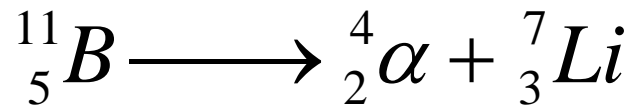
Pg. 493 #37



Pg. 494 #40

Mass	# Half-lives
1.00 g	0
0.50 g	1
0.25 g	2
0.0625 g	4
0.000977 g	10

Pg. 494 #41



Pg. 494 #44

