

CONCEPT: PERIODIC TABLE: TRANSITION METALS CHARGES

Transition Metals (Type II Metals)

- Most transition metals have varying positive charges because of their electron arrangements around the nucleus.
 - More advanced explanations for these varying charges will be discussed in the later chapters.

	1A (1)	2A (2)											3A (13)	4A (14)	5A (15)	6A (16)	7A (17)	8A (18)
1																		
2			3B	4B	5B	6B	7B	8B			1B	2B						
3			(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)						
4			Sc +3	Ti +2,+3,+4	V +2,+3,+4 +5	Cr +2,+3,+6	Mn +2,+3,+4 +5,+7	Fe +2,+3	Co +2,+3	Ni +2,+3	Cu +1,+2	Zn —						
5			Y —		Nb +3,+5		Tc +4,+6,+7			Pd +2,+4	Ag —	Cd —						
6			La —				Re +4,+6,+7	Os +3,+4	Ir +3,+4	Pt +2,+4	Au +1,+3	Hg +1,+2						
7			Ac —															

EXAMPLE: Predict the major charge of an ion if it were discovered to be in Period 10, Group 3B.

- a) +2 b) +5 c) -2 d) -3 e) +3

PRACTICE: What is the likely charge of the element with an atomic number of 47?

- a) +4 b) +3 c) -1 d) +1 e) +2

PRACTICE: How many electrons would the cadmium ion possess?

- a) 50 b) 48 c) 46 d) 52 e) 30