a) Ca

b) Mn

								-											
• Elements lose or gain electrons to be like the noble gases, which have the optimal number of outer shell electrons.																			
□ Metals: tend to electrons to become positively charged ions called <i>cations</i> .																			
		□ Me	tals th	at ha	ve		C	harge	are re	eferre	d to as	Туре	/ Meta	als.					
□ Metals that have						charge are referred to as <i>Type II</i> Metals.													
□ Non-metals: tend to						ele	ctrons	to be	come	negat	ively cl	harge	d ions	called	anion	IS.			
<b>EXAMPLE:</b> From what you know about ion formation and the Periodic Table, which ion would be unlikely to occur?																			
a) Rb <sup>+</sup> b) O <sup>2-</sup>						c) Mn <sup>5+</sup>					d) Al <sup>3</sup> –				e) Cl <sup>-</sup>				
3,113					<i>Sy</i> 11111					<b>a</b> // "				<i>3,</i> 3.					
Main Gro	oup Ele	ement	<u>s</u>																
Recall, that the atomic number of an element equals the number of protons within its nucleus.																			
□ For a neutral element, its number of electrons is equal to the number of protons.																			
	□ EXCEPTION 1: Main Group Metals of Lead (Pb) and Tin (Sn), which can be or																		
					-			•	-	-	•						able c	harges	
L		_1 110	11 21	1110 110	ouvy 11	ictais	OI DIOI	iiuuii (	י, ו	Olorlia	iii (i <i>0)</i>	unu z	- <u>111</u>	<u> </u>	<u>10</u> 114 v	o van	abic c	nargod	•
	1A																	8A	
	(1) <b>1</b>												3A	4A		6A	7A	(18) <b>2</b>	
1	H	(2)											(13)	(14)	(15)	(16)	(17)	Н́е	
2	³ Li	₄ Be	3B	4B	5B	6B	7B		8B		1B	2B	B  5	Ĉ	7 N	ő	۶F	Ne	
3	11 Na	12 Mg	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	13 Al	14 Si	15 P	16 S	17 Cl	18 Ar	
4	19 K	20 Ca											31 Ga	32 Ge	33 As	³⁴ Se	35 Br	36 Kr	
5	37	38	Transition Metals											50	51	52	53 I	Xe	
	Rb 55	Sr 56			(F		s Vary		In 81	Sn 82	Sb 83	Te 84	85	86					
6	Cs	Ва			,		,	J	TI	Pb	Bi	Ро	At	Rn					
7	Fr	Ra											Nh	FI	115 MC	LV	117 Ts	Og	
EVAMI	DI E. D.	radiat (	the ch	orgo i	that a	aalliun	n ion u	ould i	2000	00									
EXAME	-LE. FI	Culct		•	liial a	yaıllul			posse	33.		1 الم				۰\ ٥			
a) +1			D	) +2			(	c) +3				d) -1				e) -2			
	<b>.</b> =					-			.,		1.1								
PRACTION	CE: Wr	nch ele	ement	poss	esses	a -2 c	narge	when	it con	nbines	with c	ther e	lemen	its?					

c) P

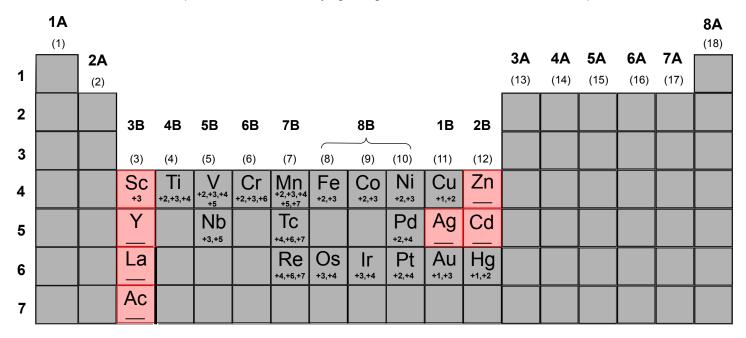
d) Se

e) F

## **CONCEPT:** PERIODIC TABLE CHARGES REVIEW

## **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.



**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