

Chapter 3 Problems - *Compounds and Bonding*

Select the correct formula for each name given.

name	a	b	c	d	answer
1. calcium chloride	CaCl ₂	CaCl	Ca ₂ Cl	none	_____
2. iron(III) bromide	FeBr ₃	Fe ₂ Br ₃	FeBr	none	_____
3. zinc sulfate	ZnS	ZnSO ₄	ZnSO ₃	none	_____
4. potassium hydroxide	KOH	K(OH) ₃	K(OH) ₂	none	_____
5. sulfuric acid	H ₂ SO ₄ (aq)	H ₂ S(aq)	H ₂ SO ₃ (aq)	none	_____
6. ammonium nitrate	NH ₄ NO ₃	NH ₃ NO ₂	NH ₄ NO ₂	none	_____
7. mercury(II) oxide	Hg ₂ O	HgO	HgO ₂	none	_____
8. aluminum sulfate	AlSO ₄	Al ₂ SO ₄	Al ₂ (SO ₄) ₃	none	_____
9. nitric acid	H ₃ N(aq)	HNO ₃ (aq)	HNO ₂ (aq)	none	_____
10. strontium nitrate	SrNO ₃	Sr(NO ₂) ₂	Sr(NO ₃) ₂	none	_____
11. lead(II) sulfide	PbS	Pb ₂ S	PbSO ₄	none	_____
12. potassium oxide	K ₂ O	KO	KO ₂	none	_____
13. nitrogen dioxide	NO ₂ ⁻	NO ₂	N ₂ O	none	_____
14. sodium bicarbonate	Na(CO ₃) ₂	Na ₂ CO ₃	NaHCO ₃	none	_____
15. hydrochloric acid	HClO ₃ (aq)	HCl(aq)	HClO ₂ (aq)	none	_____
16. ammonium sulfide	NH ₄ S	NH ₄ S ₂	(NH ₃) ₂ S	none	_____
17. cobalt(II) iodide	CoI ₂	Co ₂ I	Co(IO ₃) ₂	none	_____

Select the correct name for each formula given.

formula	a	b	c	d	answer
18. KBr	phosphorous bromide	potassium bromate	potassium bromide	none	_____
19. NH ₃	ammonia	ammonium hydroxide	ammonium	none	_____
20. HNO _{3(aq)}	hydrogen nitrite	nitric acid	nitrous acid	none	_____
21. BaSO ₄	barium sulfate	barium sulfide	barium sulfite	none	_____
22. Cu ₂ O	dicopper oxide	copper(II) oxide	cupric oxide	none	_____
23. Fe ₂ (SO ₄) ₃	ferrous sulfate	iron(III) sulfate	iron(III) sulfide	none	_____
24. N ₂ O ₄	nitrogen oxide	nitrogen tetroxide	dinitrogen tetroxide	none	_____
25. Al ₂ O ₃	ammonium oxide	aluminum oxide	aluminate	none	_____
26. NH ₄ Cl	ammonium chloride	ammonia chloride	nitrogen hydrogen chloride	none	_____
27. Cu(OH) ₂	copper hydroxide	copper dihydroxide	copper(II) hydroxide	none	_____
28. SrS	silver sulfate	strontium sulfide	strontium sulfate	none	_____
29. Ag ₂ O	silver oxide	disilver oxide	mercury(I) oxide	none	_____
30. H ₂ SO _{4(aq)}	sulfurous acid	hydrogen sulfite	hydrogen sulfide	none	_____
31. NaOH	sodium hydroxide	sodium oxyhydride	neon hydroxide	none	_____
32. ZnSO ₄	zirconium sulfate	zinc sulfide	zinc sulfate	none	_____
33. SiO ₂	silicon oxide	silicon dioxide	silver oxide	none	_____
34. KI	phosphorous iodide	potassium iron	potassium iodide	none	_____
35. Na ₂ CO ₃	sodium carbonate	sodium bicarbonate	sodium oxalate	none	_____
36. HCl _(aq)	hydrogen chlorate	hydrogen chlorite	hydrochloric acid	none	_____
37. SnO ₂	tin(IV) oxide	tin dioxide	tin(II) oxide	none	_____
38. CuS	copper(I) sulfide	copper(II) sulfide	copper(II) sulfate	none	_____
39. SnCl ₂	tin dichloride	tin(IV) chloride	tin(II) chloride	none	_____
40. Zn(CN) ₂	zinc cyanide	zinc carbonate	zinc dicyanide	none	_____
41. KHCO ₃	potassium dicarbonate	potassium bicarbonate	potassium acetate	none	_____
42. SO ₃	sulfite	sulfate	sulfur trioxide	none	_____

Classify each as a. alkali metal b. alkaline earth metal c. transition metal d. metalloid
e. non-metal

43. potassium
44. iodine
45. silicon
46. magnesium
47. cobalt