

## **BALANCE THE GIVEN CHEMICAL EQUATIONS**

Worksheet - 38

- 1.  $4 C_6 H_5 NO_2 + \___ O_2 = 24 CO_2 + 10 H_2 O + \___ N_2$
- 2. Fe(NO<sub>3</sub>)<sub>2</sub> + Na<sub>2</sub>Cr<sub>2</sub>O<sub>7</sub> = \_\_\_\_ Na(NO<sub>3</sub>) + Fe(Cr<sub>2</sub>O<sub>7</sub>)
- 3. 4 Na + O<sub>2</sub> = \_\_\_\_ Na<sub>2</sub>O
- 4. Ba(NO<sub>3</sub>)<sub>2</sub> + \_\_\_\_ NaOH = Ba(OH)<sub>2</sub> + \_\_\_\_ NaNO<sub>3</sub>
- 5. Fe(OH)<sub>3</sub> + \_\_\_\_ HNO<sub>3</sub> = Fe(NO<sub>3</sub>)<sub>3</sub> + \_\_\_\_ H<sub>2</sub>O
- 6.  $Sr(NO_3)_2 + K_2CO_4 = SrCO_4 + \____ KNO_3$
- 7. 2 Fe(s) + O<sub>2</sub>(g) + \_\_\_\_ H<sub>2</sub>O(I) = 2 Fe(OH)<sub>2</sub>(aq)
- 8. \_\_\_\_ CH<sub>4</sub> + 5 O<sub>2</sub> = \_\_\_\_ CO<sub>2</sub> + H<sub>20</sub>
- 9. \_\_\_\_ ZnS + 3 O<sub>2</sub> = 2 ZnO + \_\_\_\_ SO<sub>2</sub>
- 10. H<sub>3</sub>PO<sub>4</sub> + \_\_\_\_\_ HCl = PCl<sub>5</sub> + 4 H<sub>2</sub>O
- 11. 14  $H_2O$  + \_\_\_\_  $CO_2$  = 2  $C_6H_{14}$  + 19  $O_2$
- 12. 4 HNO<sub>3</sub> + Cu = Cu(NO<sub>3</sub>)<sub>2</sub> + \_\_\_\_ NO<sub>2</sub> + 2 H<sub>2</sub>O
- 13.  $C_{52}H_{51}Cl_3N_2O_{11}Sn =$ \_\_\_\_ C + 51 H + 2 N + 11 O + Sn + 3 Cl
- 14. PB(CH<sub>3</sub>COO)<sub>2</sub> + \_\_\_\_\_ KI = PBI<sub>2</sub> + 2 CH<sub>3</sub>COOK
- 15. 3  $K_2CO_3(s)$  + 2  $H_3PO_4(aq)$  = 2  $K_3PO_4(aq)$  + \_\_\_\_  $H_2O(l)$  + 3  $CO_2(g)$
- 16.  $C_3H_5O(CO_2H)_3 + \___OH = C_3H_5O(CO_2)_3 + \___H_2O$
- 17. 20 HCl(aq) + 4 K<sub>2</sub>CrO<sub>7</sub>(aq) +  $C_2H_5OH(aq) = 4 CrCl_3(aq) + 6 CO_2(g) + 8 KCl(aq) +$  $_____H_2O(I)$
- 18.  $Ca(NO_3)_2(aq) + Na_2CO_3(aq) = CaCO_3(aq) + NaNO_3(aq)$
- 19. 2 As + 3 H<sub>2</sub> = \_\_\_\_ AsH<sub>3</sub>
- 20.  $CUSO_4 + \___ Ag = Ag_2SO_4 + CU$



# ANSWERS

- 1.  $4 C_6 H_5 NO_2 + 25 O_2 = 24 CO_2 + 10 H_2 O + 2 N_2$
- 2.  $Fe(NO_3)_2 + Na_2Cr_2O_7 = 2 Na(NO_3) + Fe(Cr_2O_7)$
- 3. 4 Na + O<sub>2</sub> = 2 Na<sub>2</sub>O
- 4.  $Ba(NO_3)_2 + 2 NaOH = Ba(OH)_2 + 2 NaNO_3$
- 5. Fe(OH)<sub>3</sub> + 3 HNO<sub>3</sub> = Fe(NO<sub>3</sub>)<sub>3</sub> + 3 H<sub>2</sub>O
- 6.  $Sr(NO_3)_2 + K_2CO_4 = SrCO_4 + 2 KNO_3$
- 7. 2  $Fe(s) + O_2(g) + 2 H_2O(I) = 2 Fe(OH)_2(aq)$
- 8.  $5 CH_4 + 5 O_2 = 5 CO_2 + H_{20}$
- 9. 2 ZnS + 3 O<sub>2</sub> = 2 ZnO + 2 SO<sub>2</sub>
- 10. H<sub>3</sub>PO<sub>4</sub> + 5 HCl = PCl<sub>5</sub> + 4 H<sub>2</sub>O
- 11. 14  $H_2O$  + 12  $CO_2$  = 2  $C_6H_{14}$  + 19  $O_2$
- 12. 4  $HNO_3$  + Cu = Cu( $NO_3$ )<sub>2</sub> + 2  $NO_2$  + 2  $H_2O$
- 13.  $C_{52}H_{51}CI_3N_2O_{11}Sn = 52 C + 51 H + 2 N + 11 O + Sn + 3 CI$
- 14. PB(CH<sub>3</sub>COO)<sub>2</sub> + 2 KI = PBI<sub>2</sub> + 2 CH<sub>3</sub>COOK
- 15. 3  $K_2CO_3(s)$  + 2  $H_3PO_4(aq)$  = 2  $K_3PO_4(aq)$  + 3  $H_2O(l)$  + 3  $CO_2(g)$
- 16.  $C_3H_5O(CO_2H)_3 + 3 OH = C_3H_5O(CO_2)_3 + 3 H_2O$
- 17. 20 HCl(aq) + 4 K<sub>2</sub>CrO<sub>7</sub>(aq) + 3 C<sub>2</sub>H<sub>5</sub>OH(aq) = 4 CrCl<sub>3</sub>(aq) + 6 CO<sub>2</sub>(g) + 8 KCl(aq) + 19 H<sub>2</sub>O(I)
- 18.  $Ca(NO_3)_2(aq) + Na_2CO_3(aq) = CaCO_3(aq) + 2 NaNO_3(aq)$
- 19. 2 As + 3 H<sub>2</sub> = 2 AsH<sub>3</sub>
- 20.  $CUSO_4 + 2 Ag = Ag_2SO_4 + CU$



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# **Further Questions?**

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