

Boolean Algebra Homework # 4

Distributive Law. Plus review work

Simply the following expressions. Your final answer should be a minterm.

1. $(A+B)(A+C)(A+D)=$

2. $(V+W+M)(V+W+N)(V+W+P)=$

3. $(A+B)(\bar{A}+\bar{C})=$

4. $(AB)(AE+\bar{B}+C\bar{A})=$

5. $(BC+GB+JG)JB=$

6. $(FG+GH+DF)DG=$

7. $EFG+F\bar{E}\bar{G}=$

8. $A+B+(A+D)(B+C)=$

9. $(H+J)(K+L)(H+K)+J+K=$

10. $(T+V)(T+W)(U+V)(U+W)\bar{T}\bar{U}+Y=$

11. $(R+T)(T+V)+S(T+V)=$

12. $AC+AD+A\bar{C}+(B+D)(\bar{B}\bar{D})=$

13. $\bar{R}\bar{S}(\bar{B}\bar{B}+\bar{D}\bar{E}\bar{F}\bar{D})(X+Y)+\bar{X}\bar{Y}(R+S)=$

14. $(QW+B)(QW+\bar{C})(QW+D)=$

Name _____

Simply the following expressions. Your final answer should be a minterm. This section is mixed practice!

$$15. (\overline{A}(\overline{D} + B + D)\overline{G} + BCD)(A + G + \overline{A}\overline{D}\overline{E}\overline{F}) = \quad 16. \overline{TY} + \overline{RS} =$$

$$17. \overline{\overline{Y} + \overline{S} + \overline{AB} + C} =$$

$$18. P + PD + PDA =$$

$$19. RS + \overline{RST} =$$

$$20. H\overline{JKL} + KJ =$$

$$21. PD + \overline{PDA} =$$

$$22. \overline{(B + C)(B + \overline{M})(B + Q)} =$$

$$23. \overline{GHTV} + \overline{G\overline{H}\overline{T}\overline{V}} + \overline{G\overline{H}T\overline{V}} + \overline{GHT\overline{V}} + \overline{G\overline{H}\overline{T}\overline{V}} + \overline{GH\overline{T}\overline{V}} + \overline{G\overline{H}T\overline{V}} + \overline{GHTV} =$$

$$24. \overline{TYWA} =$$

$$25. \overline{\overline{RK}\overline{GRT}} =$$

$$26. \overline{S(X + W\overline{M})} =$$

Factor the following Boolean expressions.

$$27. WIN + QIN + SIN =$$

$$28. F + \overline{RT} =$$

$$29. (WIN + QEW) =$$

$$30. BAS + WPZ =$$