THE "FOUR FOURS" PROBLEM

$(4 \quad 4) \quad (4 \quad 4) = 0$

$(4 \quad 4)(4 \quad 4) = 1$

$(4 \; 4) \quad (4 \; 4) = 2$

$4 \quad (4^4 \quad^4) = 3$

$4 \quad ((4 \quad 4) \quad 4) = 4$

$4 \quad (4^4 \quad^4) = 5$

$4 \quad ((4 \quad 4) \; 4) = 6$

$(4 \quad 4) \quad (4 \; 4) = 7$

$(4 \quad 4) \quad (4 \quad 4) = 8$

$(4 \quad 4) \quad (4 \; 4) = 9$

$(44 \quad 4) \; 4 = 10$

$44 \; (\sqrt{4} \quad \sqrt{4}) = 11$

$4 \quad (4 \quad (4 \quad 4)) = 12$

$(44 \quad 4) \quad \sqrt{4} = 13$

$4 \quad 4 \quad 4 \quad \sqrt{4} = 14$

$(44 \; 4) \quad 4 = 15$

$(4^4 \quad^4) \quad 4 = 16$

$(4 \quad 4) \quad (4 \; 4) = 17$

$(4 \quad 4) \quad 4 \quad \sqrt{4} = 18$

$4! \quad 4 \quad (4 \; 4) = 19$

$(4 \quad 4) \quad \sqrt{4} \quad \sqrt{4} = 20$