$$\blacksquare = -\frac{M^2}{8NF^2}\left[\times + \frac{1}{2} + \frac{5}{16} + \frac{7}{32} + \cdots + 8(-1)^{k+1}\binom{1/2}{k+2} \right] = -\frac{M^2}{8NF^2}\, g\left(\frac{G_1}{F^2}\right)$$