Find the value of
\[ 1 + \sum_{n=1}^{\infty} (-1)^n \frac{(2n - 1)!!}{(2n)!!} \]
where \( r!! = r(r - 2)(r - 4) \cdots 2 \) and \( 1!! = 1 \).

Previous problem winners:

Zachary Hancock

All the information about the Problem of the Week challenge can be found at http://ProbOfTheWeekUTD.wordpress.com