

PROBLEM 4: A CALCULUS CONSTRUCTION  
UNDERGRADUATE PROBLEM SOLVING CONTEST  
Due Friday, February 5, 2010 by 5:00 PM

Evaluate

$$\int_0^{\pi/2} \frac{(\sin x)^{\cos x} - (\cos x)^{\sin x}}{(\sin x)^{\cos x} + (\cos x)^{\sin x}} dx.$$

In the spirit of the UPSC, you should not search the internet or look the solution up in a book.