

$$\frac{\pi}{5} \int_{\frac{\pi}{5}}^{\frac{\pi}{2}} \frac{7}{9} u - u^3 du$$

$$= \left[\frac{\frac{7}{9} u^2}{2} - \frac{u^4}{4} + C \right]_{\frac{\pi}{5}}^{\frac{\pi}{2}} du$$

$$= \left[\frac{\frac{7}{9} \sin^2}{2} - \frac{\sin^4}{4} + C \right]_{\frac{\pi}{5}}^{\frac{\pi}{2}} du$$