TITLE

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Show that

$$\int \frac{\sin t}{17 + 8\cos 2t}\, dt = -\frac{1}{12} \tan^{-1}\left(\frac{4}{3}\cos t\right) + C$$

and

$$\int \frac{\cos t}{17 + 8\cos 2t}\, dt = \frac{1}{40} \ln|5 + 4\sin t| - \frac{1}{40} \ln|5 - 4\sin t| + C$$