

12.

$$\sin x = t$$

$$\cos x dx = dt$$

$$\int \frac{dt}{(t+1)(t+2)}$$

$$\int \left( \frac{1}{t+1} - \frac{1}{t+2} \right) dt$$

$$\int \frac{dt}{t+1} - \int \frac{dt}{t+2}$$

$$\ln|(t+1)| - \ln|(t+2)| + c$$

$$\ln \left| \frac{t+1}{t+2} \right| + c$$

$$\ln \left| \frac{1 + \sin x}{2 + \sin x} \right| + c$$