Worksheet--Integration By Tables

Evaluate each integral using trig tables.

1. $\int \frac{x^2}{1+x}dx$ #6 $-\frac{1}{2}x(2-x)+\ln|1+x|+C$

2. $\int e^x\sqrt{1+e^{2x}}dx$ #26 $\frac{1}{2}\left(e^x\sqrt{e^{2x}+1}+\ln\left(e^x+\sqrt{e^{2x}+1}\right)\right)+C$

3. $\int \frac{1}{x^2\sqrt{1-x^2}}dx$ #44 $-\frac{\sqrt{1-x^2}}{x}+C$

4. $\int \sin^4 x dx$ #50, #48 $-\frac{\sin^3 x\cos x}{4}+\frac{3}{8}x-\frac{3}{8}\sin x\cos x+C$

5. $\int x^3\ln x dx$ #84 $\frac{x^4}{16}(-1+4\ln x)+C$

6. $\int e^x \operatorname{arccos} e^x dx$ #76 $e^x\arccos(e^x)-\sqrt{1-e^{2x}}+C$

7. $\int \frac{\cos x}{1+\sin^2 x}dx$ #23 $\arctan(\sin x)+C$

8. $\int \frac{x}{1-\sec x^2}dx$ #73 $\frac{1}{2}\left[x^2+\cot x^2+\csc x^2\right]+C$