Math242 Integration Practice

Make sure you know the basic identities (see page 439 in the text for the table)

Solve the following integrals (solutions are worked out in the key on my webpage).

1) \(\int \tan(2x) \, dx\)  
2) \(\int \frac{\sqrt{4x^2-1}}{x} \, dx\)

3) \(\int e^{2x} \cos(x) \, dx\)  
4) \(\int \tan^3(3x) \, dx\)

5) \(\int \cos^4(x) \sin(x) \, dx\)  
6) \(\int \frac{(x^4+x^2-1)}{x^3+x} \, dx\)

7) \(\int \frac{\sqrt{4-x^2}}{x^2} \, dx\)  
8) \(\int x^2e^x \, dx\)

9) \(\int \cos^4(x) \, dx\)  
10) \(\int \frac{\cos(x) \, dx}{\sin^2(x)+\sin(x)-6}\)
11) $\int x \sin(x) \, dx$

12) $\int \frac{x \, dx}{x^2 - 2x - 3}$

13) $\int \sin^5(x) \, dx$

14) $\int \frac{6 e^x \, dx}{e^{2x} + 9}$