Homework problems on other strategies
(reverse product and quotient rules, completing the square)

Evaluate the following integrals by using the strategies listed above.

1. $\int \left(e^x \cos x - e^x \sin x \right) \, dx$

2. $\int \left(7(x+1)^6 x^5 + 5(1+x)^7 x^4 \right) \, dx$

3. $\int \frac{e^x(x-1)}{x^2} \, dx$

4. $\int \left(\frac{\cos x}{x} - \frac{\sin x}{x^2} \right) \, dx$

5. $\int (x^2 + 4x + 4)^{\frac{2}{3}} \, dx$

6. $\int_0^4 \sqrt{x^2 + 2x + 1} \, dx$

7. $\int_0^4 \sqrt{x^2 - 2x + 1} \, dx$

8. $\int \frac{x}{x^2 - 2x + 2} \, dx$

Answers to the definite integrals.

6. 12

7. 5