Compute the following integrals.

1. $\displaystyle\int \frac{x^3 + 3x - 2}{x - 1}\, dx$

2. $\displaystyle\int \frac{x + 3}{x - 3}\, dx$

3. $\displaystyle\int \frac{3x^3 + x^2 - 5}{x^2 + 1}\, dx$

4. $\displaystyle\int \frac{3x^2 - 13x + 9}{x^3 - 6x^2 + 9x}\, dx$

5. $\displaystyle\int \frac{6x^3 + 3x^2 - 1}{(x^2 - 1)(x^2 + 1)}\, dx$