# Problem Set # 3

1. Compute the partial fractions expansion of

$$\frac{x^2 + 3x + 2}{(x - 2)^2(x + 1)}$$

2. Compute the partial fractions expansion of

$$\frac{2x^3 + 17x^2 + 7x + 6}{(x + 3)(x - 3)(x^2 + x + 1)}$$

3. Compute the partial fractions expansion in $\mathbf{Q}(y)[x]$ of

$$\frac{yx^2 + 3y^2x + 2}{(x - y)^2(x + y)}$$