

$$\begin{bmatrix} -b_0 & 0 \\ -b_1 & -b_0 \end{bmatrix}^{-1} = \frac{1}{b_0^2} \begin{bmatrix} -b_0 & 0 \\ b_1 & -b_0 \end{bmatrix} \quad \text{p.5}$$

$$= \begin{bmatrix} -1/b_0 & 0 \\ \frac{b_1}{b_0^2} & -\frac{1}{b_0} \end{bmatrix}$$

Example:

$$\begin{aligned} p(x) &= x^4 + 4x^3 + 8x^2 + 8x + 3 \\ &= (x+1)^2(x^2 + 2x + 3) \end{aligned}$$

Let's choose a $d(x) = x^2 + d_1x + d_0$

$$d(x) = x^2 + x + 1$$

$$\begin{array}{r} x^2 + x + 1 \overline{) x^4 + 4x^3 + 8x^2 + 8x + 3} \\ \underline{x^4 + x^3 + x^2} \\ 3x^3 + 7x^2 + 8x + 3 \\ \underline{3x^3 + 3x^2 + 3x} \\ 4x^2 + 5x + 3 \end{array}$$