

4.3 Lab

$$\begin{array}{r} 5i \overline{) 1 \ -1 \ 23 \ -25 \ -50} \\ (-1+5i)(5i) \quad \downarrow 5i \ -25+5i \ 25-10i \ 50 \\ \hline -5i+25i^2 \quad 1 \ -1+5i \ -2-5i \ -10i \ 0 \end{array}$$

$$(-2-5i)(5i)$$

$$\begin{array}{r} -10i-25i^2 \quad -5i \overline{) 1 \ -1+5i \ -2-5i \ -10i \ 0} \\ (-10i)(5i) \quad \downarrow \downarrow -5i \ 5i \ -10i \ 0 \\ \hline 1 \ -1 \ -2 \ 0 \ 0 \end{array}$$

$$x^2 - x - 2 = 0$$

$$(x+1)(x-2)$$

$$\text{Linear Factors: } (x+1)(x-2)(x-5i)(x+5i)$$

$$x = 0 \quad x = 2$$

$$x^2 = -2$$