

**PRACTICE 3d:**

- (1) Factor  $p_1(x) = x^2 - 2x + 17$ , given that  $1 + 4i$  is a root.
- (2) Factor  $p_2(x) = x^3 - 9x^2 + 43x - 75$  given that  $3 - 4i$  is a root.
- (3) Factor  $p_3(x) = x^4 + 8x^3 + 19x^2 + 12x - 40$  given that  $-2 - 2i$  is a root.
- (4) Factor  $p_4(x) = x^4 - 2x^3 + 30x^2 - 50x + 125$  given that  $5i$  is a root.