

$$f := x \rightarrow (x - 2) \cdot (x + 3) \cdot (x - 7) \cdot (2 \cdot x - 3 \cdot I - 2) \cdot (2 \cdot x + 3 \cdot I - 2)$$

$$f := x \mapsto (x - 2) (3 + x) (x - 7) (2x - 2 - 3I) (2x - 2 + 3I) \quad (1)$$

$expand(f(x))$

$$4x^5 - 32x^4 + 9x^3 + 194x^2 - 505x + 546 \quad (2)$$

$$solve(x^4 - 12 \cdot x^3 + 58 \cdot x^2 - 132 \cdot x + 80 = 0)$$

$$3 - I\sqrt{2 + \sqrt{41}}, 3 + I\sqrt{2 + \sqrt{41}}, 3 - \sqrt{-2 + \sqrt{41}}, 3 + \sqrt{-2 + \sqrt{41}} \quad (3)$$

$evalf(\%)$

$$3. - 2.898814281 I, 3. + 2.898814281 I, 0.901637725, 5.098362275 \quad (4)$$

$$expand((x - (3 - 2.898814281 \cdot I)) \cdot (x - (3 + 2.898814281 \cdot I)) \cdot (x - 0.901637725) \cdot (x - 5.098362275))$$

$$x^4 - 12.00000000 x^3 + 58.00000000 x^2 - 132.0000000 x + 80.00000003 - -0. I \quad (5)$$