

3.45
p8

$$2x^3 - 7x^2 + 12x - 9 = 0$$

$$x_2 = 1 - i\sqrt{2} \quad \text{or } 1/i \quad x_1 = 1 + i\sqrt{2}$$

$$(x - 1 + i\sqrt{2})(x - 1 - i\sqrt{2}) = x^2 - 2x + 2$$

$$\frac{2x^3 - 7x^2 + 12x - 9}{x^2 - 2x + 2}$$

$$\frac{2x^3 - 4x^2 - 6x}{-3x^2 + 6x - 9}$$

$$\frac{-3x^2 + 6x - 9}{-3x^2 + 6x - 9}$$

$$\frac{-3x^2 + 6x - 9}{-3x^2 + 6x - 9}$$

$$\frac{-3x^2 + 6x - 9}{-3x^2 + 6x - 9}$$

ii

$$x_1 = \sqrt{3} + i\sqrt{2}$$

$$x_1^3 = (\sqrt{3} + i\sqrt{2})^2 (\sqrt{3} + i\sqrt{2}) = (-1 - 2i)(\sqrt{3} + i\sqrt{2}) = -\sqrt{3} + \sqrt{2}i$$

$$x_1^2 = -1 + i\sqrt{2}$$

: (10/10 p3)

$$2(-5 + 2i) - 7(-1 + 2i) + 12(1 + i\sqrt{2}) - 9 =$$

$$-10 + 4i + 7 - 14i + 12 + 12i\sqrt{2} - 9 = 0 \quad \checkmark$$