



Factor Polynomials (Order 4) - As Quadratic (With Hint), Coefficient N

1

$$49r^4 + 70r^2 + 16 \quad \text{Factor this higher order polynomial}$$

hint:

$$q^2 + 10q + 16$$

$$q = 7r^2$$

$$^A (7r^2 + 2)(7r^2 + 8)$$

$$^B (49r^2 + 2)(1649r^2 - 8)$$

2

$$16y^4 - 52y^2 + 40 \quad \text{Factor this higher order polynomial}$$

hint:

$$p^2 - 13p + 40$$

$$p = 4y^2$$

$$^A (40y^2 - 8)(y^2 + 5)$$

$$^B (4y^2 - 8)(4y^2 - 5)$$

3

$$36m^4 - 4$$

Factor this higher order polynomial

hint:

$$t^2 - 4$$

$$t = 6m^2$$

$$^A (36m^2 + 6)(36m^2 - 9)$$

$$^B (6m^2 + 2)(6m^2 - 2)$$

4

$$16m^4 + 32m^2 + 15 \quad \text{Factor this higher order polynomial}$$

hint:

$$q^2 + 8q + 15$$

$$q = 4m^2$$

$$^A (4m^2 + 5)(4m^2 + 3)$$

$$^B (15m^2 + 5)(m^2 - 3)$$

5

$$25w^4 - 49$$

Factor this higher order polynomial

hint:

$$q^2 - 49$$

$$q = 5w^2$$

$$^A (25w^2 - 7)(25w^2 - 7)$$

$$^B (5w^2 + 7)(5w^2 - 7)$$

6

$$64r^4 - 104r^2 + 36 \quad \text{Factor this higher order polynomial}$$

hint:

$$m^2 - 13m + 36$$

$$m = 8r^2$$

$$^A (8r^2 - 4)(8r^2 - 9)$$

$$^B (r^2 - 4)(64r^2 + 9)$$

7

$$36t^4 - 84t^2 + 48 \quad \text{Factor this higher order polynomial}$$

hint:

$$p^2 - 14p + 48$$

$$p = 6t^2$$

$$^A (6t^2 - 6)(6t^2 - 8)$$

$$^B (t^2 - 6)(48t^2 + 8)$$

8

$$25r^4 + 5r^2 - 30 \quad \text{Factor this higher order polynomial}$$

hint:

$$w^2 + 1w - 30$$

$$w = 5r^2$$

$$^A (25r^2 - 5)(25r^2 - 6)$$

$$^B (5r^2 - 5)(5r^2 + 6)$$