

Name : _____

Score : _____

Teacher : _____

Date : _____

Factoring: All Techniques

Factor each polynomial.

1) $(x^4 - 11x^3 + 29x^2 + 35x - 150)$

2) $(x^4 + 4x^3 + x^2 - 12x - 12)$

3) $(x^2 - 7x + 10)$

4) $(3x^3 + 29x^2 + 78x + 40)$

5) $(x^4 + 4x^2 + 3)$

6) $(x^6 + x^5 - x^4 + 11x^3 - 212x^2 - 80x + 960)$

7) $(x^4 - 2x^3 - 13x^2 - 4x - 30)$

8) $(x^4 + 25x^2 + 144)$

9) $(x^3 - 3x^2 - 18x + 40)$

10) $(x^6 + 39x^4 + 395x^2 + 1125)$

11) $(9x^5 + 72x^4 + 184x^3 + 176x^2 + 80x + 64)$

12) $(x^3 + 5x^2 + 2x + 10)$



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Factor each polynomial.

1) $(x^4 - 11x^3 + 29x^2 + 35x - 150)$

$$(x - 5)^2(x + 2)(x - 3)$$

2) $(x^4 + 4x^3 + x^2 - 12x - 12)$

$$(x^2 - 3)(x + 2)^2$$

3) $(x^2 - 7x + 10)$

$$(x - 5)(x - 2)$$

4) $(3x^3 + 29x^2 + 78x + 40)$

$$(3x + 2)(x + 4)(x + 5)$$

5) $(x^4 + 4x^2 + 3)$

$$(x^2 + 3)(x^2 + 1)$$

6) $(x^6 + x^5 - x^4 + 11x^3 - 212x^2 - 80x + 960)$

$$(x^2 - 5)(x^2 + 16)(x + 4)(x - 3)$$

7) $(x^4 - 2x^3 - 13x^2 - 4x - 30)$

$$(x^2 + 2)(x + 3)(x - 5)$$

8) $(x^4 + 25x^2 + 144)$

$$(x^2 + 9)(x^2 + 16)$$

9) $(x^3 - 3x^2 - 18x + 40)$

$$(x + 4)(x - 2)(x - 5)$$

10) $(x^6 + 39x^4 + 395x^2 + 1125)$

$$(x^2 + 5)(x^2 + 25)(x^2 + 9)$$

11) $(9x^5 + 72x^4 + 184x^3 + 176x^2 + 80x + 64)$

$$(9x^2 + 4)(x + 2)^2(x + 4)$$

12) $(x^3 + 5x^2 + 2x + 10)$

$$(x^2 + 2)(x + 5)$$

