

Unit 3 Day 3 Practice

Date _____ Period _____

Factor each completely.

1) $m^4 - m^2 - 30$

2) $x^4 - 10x^2 + 24$

3) $15m^4 - 56m^2 + 49$

4) $100x^4 + 60x^2 - 16$

5) $12u^4 + 84u^2 + 135$

6) $72x^4 - 114x^2 - 420$

7) $64x^3 + 27$

8) $m^3 + 1$

9) $24 - 3u^3$

10) $1 - 27m^3$

Solve each.

11) $x^4 + x^2 - 56 = 0$

12) $x^4 - 13x^2 + 40 = 0$

13) $x^3 + 27 = 0$

14) $x^3 - 64 = 0$

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Date _____ Period _____

Factor each completely.

1) $m^4 - m^2 - 30$

$(m^2 - 6)(m^2 + 5)$

2) $x^4 - 10x^2 + 24$

$(x^2 - 6)(x - 2)(x + 2)$

3) $15m^4 - 56m^2 + 49$

$(5m^2 - 7)(3m^2 - 7)$

4) $100x^4 + 60x^2 - 16$

$4(5x^2 - 1)(5x^2 + 4)$

5) $12u^4 + 84u^2 + 135$

$3(2u^2 + 5)(2u^2 + 9)$

6) $72x^4 - 114x^2 - 420$

$6(3x^2 - 10)(4x^2 + 7)$

7) $64x^3 + 27$

$(4x + 3)(16x^2 - 12x + 9)$

8) $m^3 + 1$

$(m + 1)(m^2 - m + 1)$

9) $24 - 3u^3$

$3(2 - u)(4 + 2u + u^2)$

10) $1 - 27m^3$

$(1 - 3m)(1 + 3m + 9m^2)$

Solve each.

11) $x^4 + x^2 - 56 = 0$

$(x^2 + 8)(x^2 - 7) = 0$

12) $x^4 - 13x^2 + 40 = 0$

$(x^2 - 5)(x^2 - 8) = 0$

13) $x^3 + 27 = 0$

$(x + 3)(x^2 - 3x + 9) = 0$

14) $x^3 - 64 = 0$

$(x - 4)(x^2 + 4x + 16) = 0$