

## Extra Factoring WS 2

Name

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Factor the expression.

1.  $x^2 + 4x - 21 = (x+7)(x-3)$

14.  $15x^2 - 14x + 3 = (5x-3)(3x-1)$

2.  $x^4 - 81 = (x^2+9)(x^2-9)$   
 $= (x+3i)(x-3i)(x+3)(x-3)$

15.  $15y^2 + 19y - 10 = (5y-2)(3y+5)$

3.  $x^2 + 8x + 15 = (x+5)(x+3)$

16.  $x^2 + 16x + 64 = (x+8)^2$

4.  $3x^3 + 25x^2 + 52x = x(3x^2 + 25x + 52)$   
 $= x(3x+13)(x+4)$

17.  $2x^2 - 8 = 2(x^2 - 4) = 2(x+2)(x-2)$

5.  $x^2 - 11xy + 28y^2 = (x-7y)(x-4y)$

18.  $9x^2 - 1 = (3x+1)(3x-1)$

6.  $x^2 - 10x + 24 = (x-6)(x-4)$

19.  $4x^2 + 4x + 1 = (2x+1)^2$

7.  $1 - 16y^4 = (1+4y^2)(1-4y^2)$   
 $= (1+2yi)(1-2yi)(1+2y)(1-2y)$

20.  $9x^2 - 12x + 4 = (3x-2)^2$

8.  $2x^2 - 5x - 3 = (2x+1)(x-3)$

21.  $m^4 + 8m^3 + 8m^2 + 64m = m(m^3 + 8m^2 + 8m + 64)$   
 $= m[m^2(m+8) + 8(m+8)]$

9.  $3x^2 - x - 2 = (3x+2)(x-1)$

22.  $6x^2 + 17x + 5 = m(m+8)(m+2i\sqrt{2})(m-2i\sqrt{2})$   
 $= (3x+1)(2x+5)$

10.  $3x^2 + 7x + 2 = (3x+1)(x+2)$

23.  $4x^2 + 14x + 6 = 2(2x^2 + 7x + 3)$   
 $= 2(2x+1)(x+3)$

11.  $2x^2 + 5x + 3 = (2x+3)(x+1)$

24.  $6x^2 - 33x + 15 = 3(2x^2 - 11x + 5)$   
 $= 3(2x-1)(x-5)$

12.  $10x^2 - 3x - 1 = (5x+1)(2x-1)$

25.  $45x^2 + 30x + 5 = 5(9x^2 + 6x + 1)$   
 $= 5(3x+1)^2$

13.  $6x^2 - 13x + 2 = (6x-1)(x-2)$

26.  $12a^3b^2 - 6a^2b + 4a^2b^2 - 2ab$   
 $= 2ab(6a^2b - 3a + 2ab - 1)$   
 $= 2ab(3a+1)(2ab-1)$