

# FACTORING REVIEW - Solutions

## FACTOR FULLY

1.  $4x - 4y + 8$   $4(x - y + 2)$
2.  $2x^2y - 4x^3y^2 - 8x^2y^4$   $2x^2y(1 - 2xy - 4y^3)$
3.  $a(x+1) - 3b(x+1)$   $(x+1)(a-3b)$
4.  $x^2 - 7x - 98$   $(x-14)(x+7)$
5.  $3x^2 + 13x - 10$   $(3x-2)(x+5)$
6.  $3x^3 + 6x^2 - 105x$   $3x(x^2 + 2x - 35) = 3x(x+7)(x-5)$
7.  $9x^2 - 25y^2$   $(3x-5y)(3x+5y)$
8.  $x^2 - 10x + 25$   $(x-5)^2$
9.  $m^4 - n^4$   $(m^2+n^2)(m-n)(m+n)$
10.  $8x^2 - 2x - 15$   $(4x+5)(2x-3)$
11.  $(x+3)^2 - z^2$   $(x+3-z)(x+3+z)$
12.  $x^2(a-b) - y^2(a-b)$   $(a-b)(x-y)(x+y)$
13.  $2x^2 + 7x + 5$   $(2x+5)(x+1)$
14.  $x^2 + 5x + 4$   $(x+1)(x+4)$
15.  $(x-2)^2 - (x-6)^2$   $(x-2+(x-6))(x-2-(x-6)) = (2x-8)(4) = 8($
16.  $3x^2 - 12y^2$   $3(x-2)(x+2)$
17.  $21x^2 + 12x - 33$   $3(7x^2 + 4x + 11) = 3(7x+11)(x-1)$
18.  $a^2 - 4a - 21$   $(a-7)(a+3)$
19.  $4a^2 - (a+2b)^2$   $(2a-(a+2b))(2a+a+2b) = (a-2b)(3a+2b)$
20.  $4x^2 - 4x + 1$   $(2x-1)(2x-1)$
21.  $25x^2 - 70x + 49$   $(5x-7)^2$
22.  $25x^2 - 49y^2$   $(5x-7)(5x+7)$
23.  $2x^2 + 4x - 30$   $(2x+10)(x-3)$
24.  $16a^2b^3 - 14ab^6 + 12a^3b$   $2ab(8ab^2 - 7b^5 + 6a^2)$
25.  $(3x-2)^2 - (2x+1)^2$   $((3x-2)-(2x+1))(3x-2+2x+1)$   
 $= (x-3)(5x-1)$