

Algebra II A.30 Factoring Worksheet
GOOD LUCK at Homecoming, Rebels!



Perfect Square Trinomials

1) $x^2 + 6x + 9$
 $(x+3)^2$

2) $x^2 - 8x + 16$
 $(x-4)^2$

3) $y^2 - 22y + 121$
 $(y-11)^2$

4) $3x^2 + 36x + 108$
 $3(x^2 + 12x + 36)$
 $= 3(x+6)^2$

Mixture of Rules 1-5:

5) $r^3 + 3r^2 - 54r$
 $r(r^2 + 3r - 54)$
 $= r(r+9)(r-6)$

6) $4x^6 - 4x^2 = 4x^2(x^4 - 1)$
 $= 4x^2(x^2 + 1)(x^2 - 1)$
 $= 4x^2(x^2 + 1)(x+1)(x-1)$

7) $5x^2 + 15x - 10$
 $= 5(x^2 + 3x - 2)$
 ~~$= 5(x-1)(x+2)$~~

8) $3a^2 + 24a + 45$
 $= 3(a^2 + 8a + 15)$
 $= 3(a+5)(a+3)$

9) $b^4 - 81$
 $(b^2 + 9)(b^2 - 9)$
 $= (b^2 + 9)(b+3)(b-3)$

10) $y^2 + 20y + 96$
 $(y+12)(y+8)$

11) $2x^2 + 18$
 $= 2(x^2 + 9)$

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

13) $16r^2 - 24r + 9$
 $= (4r-3)(4r-3)$
 $= (4r-3)^2$

14) $9m^2 - 64$
 $(3m+8)(3m-8)$