FACTORING ☺

Note Title 4/27/2016

6.3.13: $64m^4 - 4y^4$

$4(16m^4 - y^4)$ GCM

$4(4m^2+y^2)(4m^2-y^2)$ DOTS

$4(4m^2+y^2)(2m+y)(2m-y)$ DOTS

6.3.33: $(p+q)^2 + 2(p+q) + 1$

$x^2 + 2x + 1$ let $x = p+q$

$(x+1)^2$

$(p+q+1)^2$

36. $(m-n)^2 + 4(m-n) + 4$

$x^2 + 4x + 4$ let $(m-n) = x$

$(x+2)^2$

$(m-n+2)^2$

39. $t^3 - 216$ S O AP

$t^3 - 6^3 = (t-6)(t^2 + 6t + (6)^2)$

$(t-6)(t^2 + 6t + 36)$

42. $r^3 + 343$

$r^3 + 7^3 = (r+7)(r^2 - 7r + 49)$

51. $64g^3 - 27h^3$

$(4g)^3 - (3h)^3 = (4g-3h)((4g)^2 + (4g)(3h) + (3h)^2)$

$(4g-3h)(16g^2 + 12gh + 9h^2)$

$(y+z)(y+z)$

57. $(y+z)^3+64$

a^3+4^3 let $a = y+z$

$(a+4)(a^2-4a+16)$

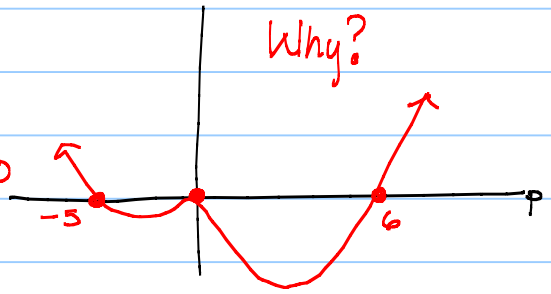
$(y+z+4)(y^2+2yz+z^2-4y-4z+16)$

6.4.3: $3p^4-3p^3-90p^2=0$

$3p^2(p^2-p-30)$

$3p^2(p-6)(p+5)=0$

Why?



6. $49z^2-16 = (7z-4)(7z+4)$

9. $6b^2-17b-3$

mult to -18
adds to -17

$(6b^2-18b)+1b-3$

$6b(b-3)+1(b-3)$

$(b-3)(6b+1)$

12. $6t^2+19tu-77u^2$

$(2t+11u)(3t-7u)$

Check: $6t^2-14tu+33tu-77u^2$

15 $9m^2-45m+18m^3$

$18m^3+9m^2-45m$

$9m(2m^2+m-5)$ GCF

There are no factors of -10 that add to 1

21. $kq - 9q + kr - 9r$

$q(k-9) + r(k-9)$

$(q+r)(k-9)$

24. $9r^2 + 100$ binomial sum - can't factor

27. $x^4 - 625$

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

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

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

30. $48y^2z^3 - 28y^3z^4$

$4y^2z^3(12 - 7yz)$

Homework:

6.3 Special Factoring p 302: 2, 5, 6, 31-41odd, 45, 57, 58

6.4 Approach to Factoring p 305: 9, 11, 13, 19, 26, 41, 51, 53, 63, 67

18.2 Factoring with Trigonometric Terms p 819: 17, 21