

① $50x^3 - 20x^2 + 2x$
 $2x(25x^2 - 10x + 1)$ (GCF)
 $2x(5x-1)(5x-1)$ (KEY#)

$ac = 25(1)$
 $= 25$

P	S	D
1.25	26	24
5.5	10	9

② $25x^2 - 10x + 1$
 $25x^2 - 5x - 5x + 1$
 $5x(5x-1) - 1(5x-1)$
 $(5x-1)(5x-1)$

② $3x^5 - 81x^2y^3$
 $3x^2(x^3 - 27y^3)$ (GCF)
 $3x^2[(\frac{x}{F})^3 - (\frac{3y}{L})^3]$ (DIFF OF CUBES)
 $(F-L)(F^2 + FL + L^2)$
 $3x^2(x-3y)(x^2 + x(3y) + (3y)^2)$
 $3x^2(x-3y)(x^2 + 3xy + 9y^2)$

③ $9x^4 - 25$
 $(3x^2)^2 - (5)^2$
 $(3x^2 + 5)(3x^2 - 5)$

④ $12x^4 - 19x^2 + 5$ (x^2)
 $12u^2 - 19u + 5$
 $12u^2 - 15u - 4u + 5$
 $3u(4u-5) - 1(4u-5)$
 $(4u-5)(3u-1)$

U-SUBSTITUTION
 STEP 1: LET THE VARIABLE PART OF MIDDLE BE u
 AND VARIABLE PART OF FIRST BE u^2

STEP 2: FACTOR

$ac = 12(5) = 60$

P	S	D
1.60	61	59
2.30	32	28
3.20	23	17
4.15	19	11
5.12	17	7
6.10	16	4

$(4x^2-5)(3x^2-1)$

STEP 3: PLUG $u =$ _____ BACK IN

⑤ $x^6 - 9x^3 + 20$
 $u^2 - 9u + 20$ (PSD)
 $(u-4)(u-5)$
 $(x^3-4)(x^3-5)$

⑥ $m^2n^2 - 7mn + 12$
 $u^2 - 7u + 12$ (PSD)
 $(u-3)(u-4)$
 $(mn-3)(mn-4)$