Factorization III.

01. a $2x - (x - 2y) + 5y$

$2x - x + 2y + 5y$

$x + 7y$ //

b. $4(3a - 2b) - 6(2a - b)$

$12a - 8b - 12a + 6b$

$-2b$ //

c. $6(2c + d) - 2(3c - d) + 5$

$12c + 6d - 6c + 2d + 5$

$6c + 8d + 5$ //

d. $6a - 2(3a - 5b) - (a + 4b)$

$6a - 6a + 10b - a - 4b$

$6b - a$ //

~~e 6a - 2~~

e $3x(2x - 3y + 2z) - 4x(2x + 5y - 3z)$

$6x^2 - 9xy + 6xz - 8x^2 + 20xy + 12xz$

$-2x^2 + 18xz - 29xy$

f. $2xy(3x - 4y) - 5xy(2x - y)$

$6x^2y - 8xy^2 - 10x^2y + 5xy^2$

$-4x^2y - 3xy^2$

g $2a^2(3a - 2ab) - 5ab(2a^2 - 4ab)$

$6a^3 - 4a^3b - 10a^3b + 20a^2b^2$

$6a^3 - 14a^3b + 20a^2b^2$ //

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h. $-3p-(p+q)+2(p-3)$

$-3p-p-q+2pq-6q$

$-4p-7q+2pq$ //

i. $(2x+3y)(x+3y)$

$2x^2+10xy+3xy+15y$

$2x^2+13xy+15y$ //

j. $(3a-5b)(2a-b)$

$6a^2-3ab-10ab+5b^2$

$6a^2-13ab+5$ //

k. $(3x+2)^2$

$(3x+2)(3x+2)$

$9x^2+6x+6x+4$

$9x^2+12x+4$ //

l. $(2y-5)^2$

$(2y-5)(2y-5)$

$4y^2-10y-10y+25$

$4y^2-20y+25$ //

m. $(2p^2+3pq)(q^2-2pq)$

$2p^2q^2-4p^3q+3pq^3-6p^2q^2$

$-4p^2q^2-4p^3q+3pq^3$ //

2 a. $5a+10b$

$5(a+2b)$

b. $3a^2+2ab$

$a(3a+2b)$

c. $3a^2-6ab$

$3a(a-2b)$

d. $5xy+8xz$

$x(5y+8z)$

e. $5xy-10xz$

$5x(y-2z)$

f. a^2b+3ab^2

$ab(a+3b)$

g. $4pq^2-6p^2q$

$2pq(2q-3p)$

h. $3x^2y^3+5x^3y^2$

$x^2y^2(3y+5x)$

i. $4p^2q+2pq^2-6p^2q^2$

$2pq(2p+q-3pq)$

j. $2a^2b^3+3a^3b^2-6a^2b^2$

$2b^2(2b+3a-6ab)$

$a^2b^2(2(b-3ab)+3a)$

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3 a. $x^2 - y^2$

$(x+y)(x-y)$

b. $4a^2 - 9b^2$

$(2a-3b)(2a+3b)$

c. $16p^2 - 9q^2$

$(4p+3q)(4p-3q)$

d $16a^2 - 25b^2$

$(4a-5b)(4a+5b)$

e. $36p^2 - 100q^2$

$(6p+10q)(6p-10q)$