M.C.D e m.c.m. tra polinomi

calcola il MCD e mcm tra i seguenti gruppi di polinomi

1	$3x^2 - 12;$ $4x^2 - 16x + 16$ $x^2 - 2x$	MCD: $x - 2$ mcm: $12x(x-2)^2(x+2)$
2	$x^4 + x^2y^2$ $x^4 - y^4$ $x^4 + 2x^2y^2 + y^4$	MCD: $x^2 + y^2$ mcm: $x^2(x^2+y^2)^2(x^2-y^2)$
3	$a^3 - 2a^2 + a$ $a^4 - a^3$ $a^4 - a^2$	MCD: $a(a-1)$ mcm: $a^3(a-1)^2(a+1)$
4	$m^4 - m^3$ $m^4 - m^2$ $m^4 - m$	MCD: $m(m-1)$ mcm: $m^3(m-1)(m+1)(m^2+m+1)$
5	$a^2b^2 + a^2bc$ $ab^4 + ab^2c^2$ $a^3b^3 + a^3b^2c + a^2b^3x + a^2b^2xc$	MCD: ab mcm: $a^2b^2(b^2+c^2)(b+c)(a+x)$
6	$m^2 + m + mn + n$ $m^2 + m - mn - n$ $m^2 - m + mn - n$	MCD: 1 mcm: $(m^2-n^2)(m^2-1)$
7	$x^4 - y^4$ $x^3 - x^2y - xy^2 + y^3$ $x^4 + y^4 - 2x^2y^2$	MCD: $x^2 - y^2$ mcm: $(x-y)^2(x+y)^2(x^2+y^2)$
8	$m^3 - 1$ $m^3 - m$ $m^2 - 2m + 1$	MCD: $m - 1$ mcm: $m(m-1)^2(m+1)(m^2+m+1)$
9	$2u^5v - 2u^3v^3$ $4u^3v^2 + 4uv^4$ $-2u^2v^3 + 2u^4v$	MCD: $2uv$ mcm: $4u^3v^2(u+v)(u-v)(u^2+v^2)$
10	$x^5 - 16x$ $x^5 - 4x^3$ $2x^3 - 8x - 4x^2 + 16$	MCD: $x - 2$ mcm: $2x^3(x+2)(x-2)(x^2+4)$
11	$m^2 - 2mn + n^2 - 4$ $m - n + 2$ $m^2 - mn + 2m$	MCD: $m - n + 2$ mcm: $m(m-n+2)(m-n-2)$

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12	$2x^3 - 2xy^2$ $xy - y^2$ $2x^2 - 4xy + 2y^2$	$MCD: x - y$ $mcm: 2xy(x-y)^2(x+y)$
13	$3m - 6n$ $6m + 12n$ $m^2 - 4n^2$	$MCD: 1$ $mcm: 6(m-2n)(m+2n)$
14	$x^2 - x + xz - z$ $x^2 - 1$ $xy - y - x + 1$	$MCD: x - 1$ $mcm: (x-1)(x+1)(x+z)(y-1)$
15	$1 - 3a + 3a^2 - a^3$ $x + a - ax - a^2$ $x - ax$	$MCD: 1 - a$ $mcm: x(1-a)^3(x+a)$
16	$(m^2 - 3m + 2)^2$ $m^3 - m^2 - 4m + 4$ $m^3 - nm^2 - 4m + 4n$	$MCD: m - 2$ $mcm: (m-2)^2(m-1)^2(m+2)(m-n)$
17	$(x^2 - 9)(x^2 + 4)$ $(x^2 - 6x + 9)(x^3 + 4x)$ $(x^2 + 6x + 9)(x^4 + 4x^2)$	$MCD: (x^2 + 4)$ $mcm: x^2(x^2+4)(x-3)^2(x+3)^2$
18	$3a^3 - 4a^2 + 5a - 4$ $3a^3 + 5a^2 + 2a + 8$ $15a^2 + 5a + 20$	$MCD: 3a^2 - a + 4$ $mcm: 5(3a^2 - a + 4)(a-1)(a+2)$
19	$3a^3 - 2a^2 + 3a - 2$ $9a^2 - 4$ $3a^2 + a - 2$	$MCD: 3a - 2$ $mcm: (3a-2)(3a+2)(a^2+1)(a+1)$
20	$6u^2 + u - 2$ $2u^2 - u$ $4u^3 - u$	$MCD: 2u - 1$ $mcm: u(2u-1)(2u+1)(3u+2)$
21	$2m^3 + m^2 - 18m - 9$ $m^2 - m - 6$ $m^2 - 9$	$MCD: 1$ $mcm: (m+2)(2m+1)(m-3)(m+3)$
22	$a^2 + 3a + ab + 3b$ $a^2 + 2ab + b^2$ $a^3 - 9a + a^2b - 9b$	$MCD: a + b$ $mcm: (a+b)^2(a+3)(a-3)$

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23	$t^2 - 5tz$ $4t^2 - 100z^2$ $\frac{t^2}{5} - 2tz + 5z^2$	MCD: $t - 5z$ mcm: $\frac{4}{5}t(t + 5z)(t - 5z)^2$
24	$2x^3 - x^2 - 7x + 6$ $2x^2 + 7x + 6$ $2x^2 + x - 3$ $2\pi x^2 - 3\pi x$	MCD: $2x - 3$ mcm: $\pi x(x - 1)(x + 2)(2x + 3)$
25	$3x^2 - 12$; $4x^2 - 16x + 16$ $x^2 - 2x$	MCD: $x - 2$ mcm: $12x(x - 2)^2(x + 2)$
26	$4a - x^2 + a^2 + 4$ $5a + 10 + 5x$ $a^2 + x^2 + 4 + 4a + 2ax + 4x$	MCD: $(a + x + 2)$ mcm: $5(a + x + 2)(a - x + 2)$
27	$x^{2n} - y^{2n}$ $x^{2n} + y^{2n} - 2x^n y^n$ $nx^n - ny^n$	MCD: $x^n - y^n$ mcm: $n(x^n - y^n)^2(x^n + y^n)$
28	$m^3 + m^2 - m - 1$ $m^2 + 2m + 1$ $\frac{m}{2} + \frac{1}{2}$	MCD: $m + 1$ mcm: $\frac{1}{2}(m - 1)(m + 1)^2$
29	$y^2 + 2y + 4$ $y^3 - 8$	MCD: $y^2 + 2y + 4$ mcm: $y^3 - 8$
30	$2x^2 + 18x + 16$ $2x^2 - 128$ $2x^2 - 14x - 16$	MCD: 2 mcm: $2(x - 8)(x + 8)(x + 1)$
31	$x^4 - 9$ $x^4 + x^2 - 6$ $x^3 + 3x$	MCD: $x^2 + 3$ mcm: $x(x^2 - 3)(x^2 + 3)(x^2 - 2)$
32	$x^3 - 4x^2 + 5x - 2$ $x^2 - 3x + 2$ $x^3 - 5x^2 + 8x - 4$	MCD: $(x - 1)(x - 2)$ mcm: $(x - 1)^2(x - 2)^2$
33	$x^2 - 1$ $x^2 + 2x + 1$ $x^3 + x^2$	MCD: $x + 1$ mcm: $x^2(x + 1)^2(x - 1)$

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34	$3x^2+3$ $3x+3$ $6x^2-6$	MCD: $3(x+1)$ mcm: $6(x-1)(x+1)(x^2-x+1)$
35	$ax+x+a^2+a$ $x^3+a^3+3a^2x+3ax^2$ $ax-x+a^2-a$	MCD: $x+a$ mcm: $(x+a)^3(a-1)(a+1)$
36	$2(x-y)$ x^2-y^2 $(x-y)^2$	MCD: $x-y$ mcm: $2(x+y)(x-y)^2$
37	$4x^2+y^2-4xy$ $4x^2+4xy+y^2$ $10x-5y$	MCD: 1 mcm: $5(2x-y)^2(2x+y)^2$
38	$(x-y)^2$ $(x+y)^2(x-y)^2$ $100x-100y$	MCD: $(x-y)$ mcm: $100(x-y)^2(x+y)^2$
39	x^2-16y^2 $x^2+ax-4(xy+ay)$ $3x^2-24xy+48y^2$	MCD: $x-4y$ mcm: $3(x-4y)^2(x+4y)(x+a)$
40	$3a^2+3ab$ $12a^3-12ab^2$ $6a^4b+6ab^4$	MCD: $3a(a+b)$ mcm: $36ab(a^2-b)^2(a^2-ab+b^2)$
41	a^2-4b^2 $2a^3-4a^2b$ $(a-2b)^2$	MCD: $a-2b$ mcm: $2a^2(a-2b^2)(a+2b)$
42	a^6-b^6 a^2-b^2 a^3+b^3 a^3-b^3	MCD: 1 mcm: $(a^2-b^2)(a^2+ab+b^2)(a^2-ab+b^2)$
43	$3x^3-6x^2-45x$ $2x^4-2x^3-40x^2$ $6x^3-60x^2+150x$	MCD: $x(x-5)$ mcm: $6x^2(x-5)^2(x+3)(x+4)$
44	$3x^4+3x^3-18x^2$ $2x^5+4x^4-16x^3$ $6x^4-24x^3+24x^2$	MCD: $x^2(x-2)$ mcm: $6x^3(x-2)^2(x+3)(x+4)$