

ESERCIZI IN PIÙ

IL M.C.D. E IL m.c.m. FRA POLINOMI

Determina M.C.D. e m.c.m. fra i seguenti polinomi.

1 $x^3 + 4x^2 - x - 4;$ $7x^3 - 7;$ $x^3 + 2x^2 + 2x + 1.$
 [M.C.D. = 1; m.c.m. = $7(x-1)(x+1)(x+4)(x^2+x+1)$]

2 $x^3 - 3x^2 - x + 3;$ $x^4 - 10x^2 + 9;$ $x^3 + x^2 - 5x + 3.$
 [M.C.D. = $x-1$; m.c.m. = $(x-1)^2(x+1)(x+3)(x-3)$]

3 $3x^2 + 10x - 8;$ $12x^2y - 8xy;$ $27x^4 - 54x^3 + 36x^2 - 8x.$
 [M.C.D. = $3x-2$; m.c.m. = $4xy(x+4)(3x-2)^3$]

4 $x^3 - 3x^2 + 4;$ $-8 + 8x - 2x^2;$ $x^3 - 2x^2 - x + 2.$
 [M.C.D. = $x-2$; m.c.m. = $2(x-2)^2(x+1)(x-1)$]

5 $x^4 - 2a^2x^2 - 8a^4;$ $4a^2y^2 - x^2y^2;$ $x^3 - 8a^3.$
 [M.C.D. = $x-2a$; m.c.m. = $y^2(x-2a)(x+2a)(x^2+2a^2)(x^2+2ax+4a^2)$]

6 $x^3 + 5x^2 - 9x - 45;$ $3x^3 + 3x^2 - 27x - 27;$ $2x^3 - x - 51.$
 [M.C.D. = $x-3$; m.c.m. = $3(x+5)(x-3)(x+3)(x+1)(2x^2+6x+17)$]

7 $(2x-3y)^2 - 9y^2;$ $2x^2 + 3y - x - 6xy;$ $2x^2 + 7x - 4.$
 [M.C.D. = 1; m.c.m. = $4x(x-3y)(2x-1)(x+4)$]

8 $x^2 - 4x + 4 + 3xy - 6y;$ $2x^3 - 16;$ $x^3 - 3x^2 + 4.$
 [M.C.D. = $x-2$; m.c.m. = $2(x-2)^2(x+1)(x-2+3y)(x^2+2x+4)$]

9 $(a-3b)^2 - 9x^2;$ $a^2 - 3x^2 - 3bx - 3ab - 2ax;$ $-4ax^2 + 2a^2x - 6bx^2 - 6abx - 6x^3.$
 [M.C.D. = $a-3b-3x$; m.c.m. = $2x(x+a)(a-3b-3x)(a-3b+3x)$]

10 $x^6 + 7x^3 - 8;$ $x^2 + x - 2;$ $x^4 - x^3 + 3x^2 + 2x + 4.$
 [M.C.D. = 1; m.c.m. = $(x-1)(x+2)(x^2+x+1)(x^2-2x+4)$]