

SCOMPOSIZIONE DI UN POLINOMIO IN FATTORI - bis

Esercizi proposti

- 215.** $5x^2 - 8x - 4$; $5x^2 - 14x + 8$; $2x^2 + 5x + 2$. $[(x-2)(5x+2); \dots; \dots]$
216. $4x^2 + 9x + 5$; $2x^2 - 3x - 2$; $8y^2 - 2y - 6$. $[(x+1)(4x+5); \dots]$
217. $7x^2 + 16x + 4$; $4y^2 + 14y + 12$. $[(x+2)(7x+2); 2(y+2)(2y+3)]$
218. $v^2 + 20v + 99$; $z^2 - 4z - 32$; $a^2 + 6a - 91$; $b^2 + 8b + 7$.
219. $c^2 + 15c + 36$; $d^2 - 2d - 63$; $k^2 - 4k + 3$; $h^2 - 13h + 40$.
220. $m^2 - 24m + 128$; $m^2 - 7m - 78$; $n^2 - 11n - 60$; $n^2 + 14n - 51$.
221. $x^4 + 2x^2 - 15$; $x^5 - 3x^3 + 2x^2 - 6$. $[(x^2+5)(x^2-3); (x^3+2)(x^2-3)]$
222. $5x^3 - 2x^2 + x - 4$; $m^3 - 3m^2 - 4m + 12$. $[(x-1)(5x^2+3x+4); (m-2)(m+2)(m-3)]$
223. $a^3 - 7a^2 + 14a - 8$; $4p^3 + 12p^2 - 15p + 4$. $[(a-1)(\dots)(\dots); (p+4)(2p-1)^2]$
224. $a^3 - a^2 - 4a + 4$; $q^3 - 12q^2 + 21q - 10$. $[\dots; (q-1)^2(q-10)]$
225. $6x^3 + x^2 - 21x - 10$; $2x^2 - 5x - 18$. $[(x-2)(2x+1)(3x+5); (x+2)(2x-9)]$
226. $x^6 - 14x^4 + 49x^2 - 36$. $[(x+1)(x-1)(x+2)(x-2)(x+3)(x-3)]$
227. $x^5 - 10x - 12$; $x^3 - 20x^2 + 53x - 34$. $[(x-2)(x^4+2x^3+4x^2+8x+6); (x-1)(x-2)(x-17)]$
228. $x^3 - 6x^2 + 11x - 6$; $x^3 + 15x^2 + 2x - 312$. $[(x-1)(x-2)(x-3); (x-4)(x+6)(x+13)]$
229. $2x^4 - 5x^2 + 2x + 1$; $x^3 - 7x + 6$. $[(x-1)^2(2x^2+4x+1); (x-1)(x-2)(x+3)]$
230. $3x^6 - 3x^4 - 24x^3 + 24x$. $[3x(x-1)(x+1)(x-2)(x^2+2x+4)]$
231. $x^3 - 3abx + a^3 + b^3$. $[(x+a+b)(x^2-ax-bx+a^2+b^2-ab)]$
232. $2x^4 - 13x^3b + 29x^2b^2 - 28xb^3 + 12b^4$. $[(x-2b)(x-3b)(2x^2-3xb+2b^2)]$
233. $x^5 - 19x^4 + 114x^3 - 238x^2 + 205x - 63$. $[(x-1)^3(x-7)(x-9)]$
234. $2x^7 - 26x^6 + 68x^5 + 126x^4 - 98x^3$. $[2x^3(x-7)^2(x^2+x-1)]$
235. $x^5 + 6x^4 - 15x^3 - 116x^2 + 48x + 576$. $[(x-3)^2(x+4)^3]$
236. $(x-y)k^3 + (y^3-x^3)k + xy(x^2-y^2)$. $[(x-y)(k-x)(k-y)(k+x+y)]$

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237. $8x^5 - 50x^3y^2$; $a^2b^4 + 2ab + b$. $[2x^3(2x + 5y)(2x - 5y); b(a + 1)^2]$
238. $a^2x - 3a^2y - bx + 3by$; $27x^4 - 64xy^6$. $[(a^2 - b)(x - 3y); x(3x - 4y^2)(9x^2 + 12xy^2 + 16y^4)]$
239. $2x(x + y - 1)^2 + 2y(x + y - 1) + (x + y - 1)^3$. $[(x + y - 1)(3x^2 + y^2 + 4xy - 4x + 1)]$
240. $(a + b + c)^2(a + b + 1) + (a + b + c)^2(a + b - 1)$. $[2(a + b)(a + b + c)^2]$
241. $\frac{1}{3}x^2y\left(\frac{2}{3}x - \frac{1}{4}y\right) - 2xy^2\left(\frac{2}{3}x - \frac{1}{4}y\right) - x\left(\frac{1}{4}y - \frac{2}{3}x\right)$. $\left[x\left(\frac{2}{3}x - \frac{1}{4}y\right)\left(\frac{1}{3}xy - 2y^2 + 1\right)\right]$
242. $\frac{1}{25}x^2y^4 + \frac{49}{4}x^2 + 9x^4 + \frac{7}{5}x^2y^2 - \frac{6}{5}x^3y^2 - 21x^3$. $\left[\left(-\frac{1}{5}xy^2 - \frac{7}{2}x + 3x^2\right)^2\right]$
243. $(x + 1)^2 + 2(x + 1)(2x + 3) + (2x + 3)^2$. $[(3x + 4)^2]$
244. $y^2 + 8y - 33$; $(3x - 4)^2 - (5x + 6)^2$. $[(y - 3)(y + 11); -4(4x + 1)(x + 5)]$
245. $x^3 + 125y^3 - x^2 - 10xy - 25y^2$. $[(x + 5y)(x^2 - 5xy + 25y^2 - x - 5y)]$
246. $x^8 - y^8$; $1 - (3x - 5)^3$. $[(x + y)(x - y)(x^2 + y^2)(x^4 + y^4); 9(2 - x)(3x^2 - 9x + 7)]$
247. $9x^4 + 4y^2 + 25x^2y^2 - 12x^2y + 30x^3y - 20xy^2$. $[(3x^2 - 2y + 5xy)^2]$
248. $2x^2 - 7x + 3$; $y^3 - 7y - 6$. $[(2x - 1)(x - 3); (y - 3)(y + 2)(y + 1)]$
249. $-8x^{6n} + 12x^{4n}b^5 - 6x^{2n}b^{10} + b^{15}$. $[-(2x^{2n} - b^5)^3]$
250. $a^6 - a$; $16 - a^2 - b^2 + 2ab$. $[a(a - 1)(a^4 + a^3 + a^2 + a + 1); (4 + a - b)(4 - a + b)]$
251. $(x^3 - 27)(x + 3) + (x^3 + 27)(x - 3)$. $[2(x - 3)(x + 3)(x^2 + 9)]$
252. $x^4 - 9x^3 + 29x^2 - 39x + 18$. $[(x - 1)(x - 2)(x - 3)^2]$
253. $2a^2 + ab - 15b^2$. $[(a + 3b)(2a - 5b)]$
254. $b^2(2a - b)^2 + 3b(b - 2a)^3$. $[2b(2b - 3a)(2a - b)^2]$
255. $(a - 2b)^2 + 2(a - 2b)(3a + 5b) + (3a + 5b)^2$. $[(4a + 3b)^2]$
256. $(a + b)(a - b)^2 + 2(a^2 + 3b^2)(b - a) + a^2(a - b)$. $[-7b^2(a - b)]$
257. $a^8 - b^8 + a^4 + b^4$; $a^4 - 3a^3 + 2a - 6$. $[(a^4 + b^4)(a^4 - b^4 + 1); (a - 3)(a^3 + 2)]$
258. $x^2 + 6x + 9 - 4y^2$; $a^{4n} + 2a^{3n} + a^{2n}$. $[(x + 3 - 2y)(x + 3 + 2y); a^{2n}(a^n + 1)^2]$

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259. $a^3 - 1 - a^2 + a$; $a^2 - 4a + 4 - ax + 2x$. $[(a-1)(a^2+1); (a-2)(a-2-x)]$
260. $x^2(y^2-1)^2 - x^2$; $x^3 - 2x^2 - x^2y + 2xy$. $[x^2y^2(y^2-2); x(x-y)(x-2)]$
261. $4b^2 - a^2 - 2a - 1$. $[(2b-a-1)(2b+a+1)]$
262. $(x-3)^2 + (x^2-3x)^2 + (2x-6)^2$. $[(x-3)^2(x^2+5)]$
263. $x^4 - x^2y^2 + 2x^3 - 2xy^2 + x^2 - y^2$. $[(x-y)(x+y)(x+1)^2]$
264. $x^2 - (3a-4b)x - 12ab$. $[(x-3a)(x+4b)]$
265. $(3x-2y)^2 - (5x-2y)(3x-2y) - 2(3x-2y)$. $[2(x+1)(3x-2y)]$
266. $4a^2 - 8ab + 4b^2 - 81$; $20ay^2 - \frac{4}{5}az^2$. $\left[(2a-2b-9)(2a-2b+9); \frac{4}{5}a(5y-z)(5y+z)\right]$
267. $x^3 - y^3 - 9x + 9y + x^2y - xy$. $[(x-y)(x+y-3)(x+y+3)]$
268. $2b + (a+2)^2 - b^2 - 1$; $x^6 - y^6 + x^4y^2 - x^2y^4$. $[(a-b+3)(a+b+1); (x-y)(x+y)(x^2+y^2)^2]$
269. $\frac{14}{5}bx^2 + \frac{28}{5}bxy + \frac{14}{5}by^2$. $\left[\frac{14}{5}b(x+y)^2\right]$
270. $x^2 - x + 2y - 3xy + 2y^2$; $x^2 - 2ax + a^2 - b^2$. $[(x-2y)(x-y-1); (x-a-b)(x-a+b)]$
271. $x^2 - (a-b+1)x + a-b$; $a^2 - 2ab + b^2 - 4$. $[(x-1)(x-a+b); (a-b+2)(a-b-2)]$
272. $a^2 - b^2 - 4a + 4b$; $x^3 - 2x^2y - 4xy^2 + 8y^3$. $[(a-b)(a+b-4); (x+2y)(x-2y)^2]$
273. $3(a+b)^3 - 9(a^2-b^2)(a+b) + 6(a^2-b^2)(a-b)$. $[6b(a+b)(3b-a)]$
274. $x^3 - y^3 - x^2 - xy - y^2$; $x^3 - x^2y + x(x-y)^2 - 2(x-y)^3$. $[(x^2+xy+y^2)(x-y-1); y(x-y)(3x-2y)]$
275. $x^3 - 4x^2y + 3xy^2 - 2x^2(x-3y) + x(x^2-9y^2)$. $[2xy(x-3y)]$
276. $2x^4 + x^3y - 23x^2y^2 - 4xy^3 + 60y^4$. $[(x-2y)(x+2y)(x+3y)(2x-5y)]$
277. $27x^6 - 9x^8 + x^{10} - \frac{1}{27}x^{12}$. $\left[x^6\left(3 - \frac{1}{3}x^2\right)^3\right]$
278. $(x-1)(x^2-3x-4) - (x+1)(x^2-6x+8)$. $[(x+1)(x-4)]$
279. $(x-2)^2 - 2(x^2-4) + (x-2)^2$; $(x^2+y^2)^2 - 4x^2y^2$. $[16; (x+y)^2(x-y)^2]$
280. $a^3 + b^3 - a^2 + b^2 + (a+b)^2$. $(a+b)(a^2-ab+b^2+2b)$
281. $2a^5 - a^4 - 26a^3 + 13a^2 + 72a - 36$. $[(a-2)(a+2)(a-3)(2a-1)]$
282. $x^2 + 2xy + y^2 - a^2 + 2ab - b^2$. $[(x+y+a-b)(x+y-a+b)]$
283. $2x(x^6+y^6) - 4x^3y^2(x^2+y^2) + 6xy^2(x^4-y^4)$. $[2x(x^2+y^2)(x^4-2y^4)]$
284. $9a^2 - 12b^2$; $-25x^4y^3 + y^3$. $[3(a-2b)(a+2b); y^3(1-5x^2)(1+5x^2)]$
285. $3a^3b - 6a^2b + 6ab$; $zt + 3z - 2t - 6$. $[3ab(a^2-2a+2); (z-2)(t+3)]$
286. $16z^2 - 16xz + 4x^2$; $(2a+b)^2 - (5-b)^2$. $[4(2z-x)^2; (2a+5)(2a+2b-5)]$
287. $-9z^8y^2 + z^2y^{10}$; $8 - 6z^3 + \frac{3}{2}z^6 - \frac{1}{8}z^9$. $\left[z^2y^2(y^4+3z^3)(y^4-3z^3); \left(2 - \frac{1}{2}z^3\right)^3\right]$