FORMULE DE CALCUL PRESCURTAT

Folosind formulele de calcul prescurtat, calculați:

1) $(2a+b)(2a-b)(4a^2+b^2)$

2) $(a-b)(a+b)(a^2+b^2)(a^4+b^4)$

3) $(a^2+a+1)(a^2-a+1)(a^2-1)$

4) $(a^2+4ab+4b^2)(a^2-4ab+4b^2)$

5) $(2a+1)^3+(1-2a)^3$

6) $(a+b+c)(a+b-c)$

Folosind formulele de calcul prescurtat, descompuneți în factori:

1) $(a-b)(a^2-c^2)-(a-c)(a^2-b^2)$

2) $a^4-b^2+2bc-c^2$

3) a^2-1+b^2-2ab

4) a^4+a^2+1

5) $(a^2+b^2-c^2)^2-4a^2b^2$

6) $a^2b+ab^2+a^2c+ac^2+bc^2+2abc$

7) $a^3(b-c)+b^3(c-a)+c^3(a-b)$

8)

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Folosind formule de calcul prescurtat, descompuneți

$E = a^3(b-c) + b^3(c-a) + c^3(a-b)$

$E_1)\ E = a^3b - a^3c + b^3c - b^3a + c^3a - c^3b$

$E = a(a^2b - a^2c - b^3 + c^3) + (b^3c - c^3b)$

$E = a(a^2(b-c) - (b^3 - c^3)) + bc(b^2 - c^2)$

$E_2)\ E = a(a^2(b-c) - (b-c)(b^2+bc+c^2) + bc(b-c)(b+c))$

$E = a(b-c)(a^2 - b^2 - bc - c^2) + bc(b-c)(b+c)$

$E = (b-c)[a(a^2 - b^2 - bc - c^2) + bc(b+c)]$

$E_3)\ E = (b-c)(a^3 - ab^2 - abc - ac^2 + b^2c + bc^2)$

$E = (b-c)[a(a^2 - b^2) - bc(a-b) - c^2(a-b)]$

$E = (b-c)[a(a-b)(a+b) - bc(a-b) - c^2(a-b)]$

$E_4)\ E = (b-c)(a-b)[a(a+b) - bc - c^2]$

$E = (b-c)(a-b)(a^2 + ab - bc - c^2)$

$E = (b-c)(a-b)((a-c)(a+c) + b(a-c))$

$E_5)\ \boxed{E = (b-c)(a-b)(a-c)(a+b+c)}$

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