

Algebra 3 Assignment # 11

Factor the Following:

(1) $x^2 + xy + xz + yz$

(2) $x^3 - 3x^2 + 3 - x$

(3) $x^2 - 2x - xy + 2y$

(4) $27x^3 + 125y^9$

(5) $x^4 - (5x + 6)^2$

(6) $(x^2 - 7)^2 - (x + 5)^2$

(7) $x^2 - 10x + 25 - y^2$

(8) $25y^2 - 16x^2 + 24x - 9$

(9) $4x^3 + 8x^2y - x - 2y$

(10) $(x^2 - 9)^2 - (x + 3)^2$

(11) $(x - y)^4 + (x - y)$

(12) $x(x + 8)(x - 2) + 7(x - 2)$

(13) $x^4 + x^3 - x - 1$

(14) $24x^2 - 17x - 20$

(15) $x^3 - 64$

(16) $x^2(x^2 - 9) - 6x(x^2 - 9) + 9(x^2 - 9)$

(17) $10x^3 - 25x - 15x^2$

(18) $3x^2 - 11x - 4$

(19) $24x^2 + 55x - 24$

(20) $x(x - 4)(x + 1)^2 - 4(x - 3)(x + 1)^2$

(21) $x^3 - 2x^2 - 9x + 18$

(22) $(x - 3)^4 - (x - 3)$

(23) $x^6 - 7x^3 - 8$

(24) $4x^5 - x^3 + 32x^2 - 8$

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Answers:

1. $(x+z)(x+y)$
2. $(x-3)(x+1)(x-1)$
3. $(x-2)(x-y)$
4. $(3x+5y^3)(9x^2-15xy^3+25y^6)$
5. $(x-6)(x+1)(x+3)(x+2)$
6. $(x-4)(x+3)(x+2)(x-1)$
7. $(x-5-y)(x-5+y)$
8. $(5y-4x+3)(5y+4x-3)$
9. $(x+2y)(2x-1)(2x+1)$
10. $(x+3)^2(x-4)(x-2)$
11. $(x-y)(x-y-1)\left[(x-y)^2-(x-y)+1\right]$
12. $(x-2)(x+7)(x+1)$
13. $(x+1)(x-1)(x^2+x+1)$
14. $(8x+5)(3x-4)$
15. $(x-4)(x^2+4x+16)$
16. $(x-3)^3(x+3)$
17. $5x(2x-5)(x+1)$
18. $(3x+1)(x-4)$
19. $(8x-3)(3x+8)$
20. $(x+1)^2(x-2)(x-6)$
21. $(x-2)(x+3)(x-3)$
22. $(x-3)(x-4)(x^2-5x+7)$
23. $(x-2)(x^2+2x+4)(x+1)(x^2-x+1)$
24. $(2x+1)(2x-1)(x+2)(x^2-2x+4)$