

Algebra 3 Assignment # 9

Review Worksheet

Factor each of the following completely please.

(1) $64x^2 - 1$

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

(2) $64x^3 - 1$

(17) $25y^2 - 16x^2 + 24x - 9$

(3) $24x^2 - 17x - 20$

(18) $x^5 + 9x^3 + 8x^2 + 72$

(4) $16x^2 + 6x - 27$

(19) $4x^5 - x^3 + 108x^2 - 27$

(5) $32x^2 + 47x + 15$

(20) $x^3 + 6x^2 + 12x + 8$

(6) $36x^4 - 97x^2 + 36$

(21) $x^2 - 6x + 9 - xy + 3y$

(7) $48x^2 - 14x - 45$

(22) $x(x + 8)(x + 2) + 7(x + 2)$

(8) $32x^2 + 2x - 9$

(23) $x(x - 4)(x - 2)^2 - 4(x - 3)(x - 2)^2$

(9) $10x^3 - 15x^2 - 25x$

(24) $5x^2(3x - 2)(2x + 1)^2 - 15x^2(2x + 1)$

(10) $48x^2 + 31x - 44$

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

(11) $x^2 + 2x + xy + 2y$

(26) $2x^2(x + 2)(x + 3) + 3x(x + 1)(x + 3)$

(12) $x^2 - xy - xz + yz$

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

(13) $x^3 + x^2 - x - 1$

(28) $x^4 - (13x - 30)^2$

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

(29) $(9x^2 - 4)^2 - (3x + 2)^2$

(15) $x^5 - 4x^3 + x^2 - 4$

(30) $(x^2 + 1 - y^2)^2 - 4x^2$

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Answers

(1) $(8x + 1)(8x - 1)$

(16) $(x + 5 + y)(x + 5 - y)$

(2) $(4x - 1)(16x^2 + 4x + 1)$

(17) $(5y + 4x - 3)(5y - 4x + 3)$

(3) $(8x + 5)(3x - 4)$

(18) $(x^2 + 9)(x + 2)(x^2 - 2x + 4)$

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

(19) $(x + 3)(x^2 - 3x + 9)(2x + 1)(2x - 1)$

(5) $(32x + 15)(x + 1)$

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

(6) $(3x + 2)(3x - 2)(2x + 3)(2x - 3)$

(21) $(x - 3)(x - 3 - y)$

(7) $(6x + 5)(8x - 9)$

(22) $(x + 2)(x + 1)(x + 7)$

(8) $(16x + 9)(2x - 1)$

(23) $(x - 2)^3(x - 6)$

(9) $5x(2x - 5)(x + 1)$

(24) $5x^2(2x + 1)(6x + 5)(x - 1)$

(10) $(3x + 4)(16x - 11)$

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

(11) $(x + y)(x + 2)$

(26) $x(x + 3)^2(2x + 1)$

(12) $(x - y)(x - z)$

(27) $(x - 2)(x^2 + 2x + 4)(x + 1)(x^2 - x + 1)$

(13) $(x + 1)^2(x - 1)$

(28) $(x + 15)(x - 2)(x - 10)(x - 3)$

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

(29) $3(3x + 2)^2(3x - 1)(x - 1)$

(15) $(x + 1)(x^2 - x + 1)(x + 2)(x - 2)$

(30) $(x + 1 + y)(x + 1 - y)(x - 1 + y)(x - 1 - y)$