

Difference of Squares

$9x^2 - 1$

$(3x-1)(3x+1)$

$4n^2 - 49$

$(2n+7)(2n-7)$

$36k^2 - 1$

$(6k-1)(6k+1)$

$p^2 - 36$

$(p+6)(p-6)$

$2x^2 - 18$

$2(x^2 - 9)$

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

$121n^2 - 144$

$(11n-12)(11n+12)$

$180m^2 - 5$

$5(36m^2 - 1)$

$5(6m-1)(6m+1)$

$20a^2 - 45$

$5(4a^2 - 9)$

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

$3n^2 - 75$

$3(n^2 - 25)$

$3(n+5)(n-5)$

$24x^3 - 54x$

$6x(4x^2 - 9)$

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

Mr. Ward Answer Key

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$$10. \quad 8 - m^6$$

$$(2)^3 - (m^2)^3$$

$$(2 - m^2)(4 + 2m^2 + m^4)$$

$$11. \quad 2t^7 + 54t^4$$

$$2t^4(t^3 + 27)$$

$$2t^4((t)^3 + (3)^3)$$

$$2t^4(t+3)(t^2 - 3t + 9)$$

$$12. \quad x^3 + 64$$

$$(x)^3 + (4)^3$$

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

$$13. \quad 27 + x^3$$

$$(3)^3 + (x)^3$$

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

$$14. \quad 4t^5 - 32t^2$$

$$4t^2(t^3 - 8)$$

$$4t^2((t)^3 - (2)^3)$$

$$4t^2(t-2)(t^2 + 2t + 4)$$

$$15. \quad y^3 - 125$$

$$(y)^3 - (5)^3$$

$$(y-5)(y^2 + 5y + 25)$$

$$26. \quad 125 + z^3$$

$$a = 5 \quad b = z$$

$$(5+z)(25 - 5z + z^2)$$

$$27. \quad s^6 - 1$$

$$a = s^2 \quad b = 1$$

$$(s^2-1)(s^4 + s^2 + 1)$$

$$28. \quad 24n^2 + 3n^5$$

$$3n^2(8 + n^3)$$

$$a = 2 \quad b = n$$

$$3n^2(2+n)(4-2n+n^2)$$

$$29. \quad 6x^4 - 162x$$

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

$$a = x \quad b = 3$$

$$6x(x-3)(x^2 + 3x + 9)$$

$$30. \quad 40 - 5t^3$$

$$5(8 - t^3)$$

$$a = 2 \quad b = t$$

$$5(2-t)(4+2t+t^2)$$

$$31. \quad y^5 + 27y^2$$

$$y^2(y^3 + 27)$$

$$a = y \quad b = 3$$

$$y^2(y+3)(y^2 - 3y + 9)$$