Algebra 1　　　　　　　　　　　　　　Name_____ ID: 1

Multiplying Polynomials

Find each product.

1) $8x^3(2x^2 + 8xy + 6y^2)$

2) $2y(4x^2 + 5xy - 3y^2)$

3) $(4x + 4y)(8x - 6y)$

4) $(3x + 2y)(6x + 6y)$

5) $(x + 6y)(6x^2 - xy - 2y^2)$

6) $(4m + n)(2m^2 - 3mn + 8n^2)$

7) $7m(7m^2 - 6mn + 2n^2)$

8) $3xy^5(2x^2 - 8xy - 2y^2)$

9) $(2m + 7n)(4m - 7n)$

10) $(2m - 7n)(6m + n)$

11) $(8u - 7v)(u^2 + 2uv + v^2)$

12) $(8m - 8n)(3m^2 + 8mn - n^2)$

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13) $2u^4v(5u^2 - 3uv - 7v^2)$

14) $5y^2(2x^2 + 5xy - 6y^2)$

15) $(6m + 5n)(4m + n)$

16) $(x - 6y)(7x - y)$

17) $(2x + 2y)(6x^2 + 7xy + 2y^2)$

18) $(x - 4y)(x^2 - 5xy + 6y^2)$

19) $6x(4x^2 + 5xy + 7y^2)$

20) $8a^2(a^2 + 3ab - 5b^2)$

21) $(5x + 7y)(6x + 7y)$

22) $(2a + 5b)(3a + b)$

23) $7y(4x^2 - 8xy + y^2)$

24) $7y^3(3x^2 - 7xy - 6y^2)$

Name_____ ID: 1

Multiplying Polynomials

Find each product.

1) $8x^3\left(2x^2 + 8xy + 6y^2\right)$

$\quad 16x^5 + 64x^4y + 48x^3y^2$

2) $2y\left(4x^2 + 5xy - 3y^2\right)$

$\quad 8yx^2 + 10y^2x - 6y^3$

3) $(4x + 4y)(8x - 6y)$

$\quad 32x^2 + 8xy - 24y^2$

4) $(3x + 2y)(6x + 6y)$

$\quad 18x^2 + 30xy + 12y^2$

5) $(x + 6y)\left(6x^2 - xy - 2y^2\right)$

$\quad 6x^3 + 35x^2y - 8xy^2 - 12y^3$

6) $(4m + n)\left(2m^2 - 3mn + 8n^2\right)$

$\quad 8m^3 - 10m^2n + 29mn^2 + 8n^3$

7) $7m\left(7m^2 - 6mn + 2n^2\right)$

$\quad 49m^3 - 42m^2n + 14mn^2$

8) $3xy^5\left(2x^2 - 8xy - 2y^2\right)$

$\quad 6x^3y^5 - 24x^2y^6 - 6xy^7$

9) $(2m + 7n)(4m - 7n)$

$\quad 8m^2 + 14mn - 49n^2$

10) $(2m - 7n)(6m + n)$

$\quad 12m^2 - 40mn - 7n^2$

11) $(8u - 7v)\left(u^2 + 2uv + v^2\right)$

$\quad 8u^3 + 9u^2v - 6uv^2 - 7v^3$

12) $(8m - 8n)\left(3m^2 + 8mn - n^2\right)$

$\quad 24m^3 + 40m^2n - 72mn^2 + 8n^3$

13) $2u^4v(5u^2 - 3uv - 7v^2)$

$10u^6v - 6u^5v^2 - 14u^4v^3$

14) $5y^2(2x^2 + 5xy - 6y^2)$

$10y^2x^2 + 25y^3x - 30y^4$

15) $(6m + 5n)(4m + n)$

$24m^2 + 26mn + 5n^2$

16) $(x - 6y)(7x - y)$

$7x^2 - 43xy + 6y^2$

17) $(2x + 2y)(6x^2 + 7xy + 2y^2)$

$12x^3 + 26x^2y + 18xy^2 + 4y^3$

18) $(x - 4y)(x^2 - 5xy + 6y^2)$

$x^3 - 9x^2y + 26xy^2 - 24y^3$

19) $6x(4x^2 + 5xy + 7y^2)$

$24x^3 + 30x^2y + 42xy^2$

20) $8a^2(a^2 + 3ab - 5b^2)$

$8a^4 + 24a^3b - 40a^2b^2$

21) $(5x + 7y)(6x + 7y)$

$30x^2 + 77xy + 49y^2$

22) $(2a + 5b)(3a + b)$

$6a^2 + 17ab + 5b^2$

23) $7y(4x^2 - 8xy + y^2)$

$28yx^2 - 56y^2x + 7y^3$

24) $7y^3(3x^2 - 7xy - 6y^2)$

$21y^3x^2 - 49y^4x - 42y^5$