Name: _____ Class:___ Date: _____

1 Write the product as a polynomial and simplify.

$$(2a - 3b)\left(4a^2 + 6ab + 9b^2\right)$$

2 Factor completely.

$$64a^3b^3 - 1$$

3 Compute the product.

$$(x + 2)\left(5x^3 - 3x^2 + 6\right)$$

4 Compute the product:

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

5 Write as a polynomial:

$$(3w - 5)^3$$

6 Factor the polynomial

$$1 - 125h^6$$

7 Find the first three terms, in ascending powers, of the product. (Do not compute the entire product!)

$$(1 + 4x + 2x^2 + 2x^3)(3 + 3x + 5x^2)$$

a. $32x^3 + 16x^4 + 10x^5$

b. $16x^3 + 10x^4 + 4x^5$

c. $16x^3 + 5x^4 + 10x^5$

d. $32x^5 + 50x^4 + 64x^3$

8 Find the x^2 term in product. (Do not compute the entire product!)

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

9 Use the formula for the cube of a binomial to expand the product.

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

10 Factor completely.

$$8x^3y^6 + 27$$

Select a correct answer.

a. $(4xy^2 + 12)(9x^3y^6 - 4xy^2 + 4)$

b. $4x^3 + 6x^2 + 9x + 7$

c. $(2xy^6 + 6)(4x^3y^{12} - 4xy^4 + 9)$

d. $(2xy^2 + 3)(4x^2y^4 - 6xy^2 + 9)$

ANSWER KEY

Ch 8

1. 8*pow(a,3) − 27*pow(b,3)

2. (4*a*b − 1)*(16*pow(a,2)* pow(b,2)+4*a*b+1)

3. 5*x^4+7*x^3 − 6* x^2+6*x+12

4. pow(x,3) − 5*pow(x,2) − 2*x+24

5. 27*pow(w,3) − 135*pow(w,2)+ 225*w − 125

6. (1 − 5*pow(h,2))*(1+5*pow(h,2)+25*pow(h,4))

7. a

8. 56

9. $1+3x^2+3x^4+x^6$

10. d