

Name _____

Chapter 7-8 Review

Date _____

Algebra

1. Simplify: a) $9(x^2 + 5) - 8(x^2 - 7)$ b) $(x^2 + 6x - 11) - (4x^2 - 6x - 11)$
2. Write in standard form and then determine the leading coefficient: $8x^3 - 6x^4 - 10x^5 + x$.
3. Find the area of a rectangle when the width is $(2x + 7)$ and the length is $(x - 8)$.
4. The area of a rectangle is $x^2 + 15x + 56$. The length is $(x + 8)$. What is the width?
5. Find the product of $(x + 4)$ and $(x^2 + 3x - 5)$.
6. If $A = x^3 + 10$ and $B = 7x - 11$, find the value of $A - 6B$.
7. Factor
 - a) $x^2 + 10x + 21$
 - b) $x^2 - 9x + 18$
 - c) $x^2 - x - 12$
 - d) $2x^2 + 13x + 21$
 - e) $x^2 + 4x - 32$
 - f) $6x^4y - 12x^3y^2 - 18x^2y^3$
 - g) $x^2 - 100$
 - h) $3x^2 + 17x - 6$
 - i) $81 - x^2$
 - j) $4x^2 - 49$
 - k) $10x^7y^9 - 25x^6y^8 + 30x^4y^7$
 - l) $5x^2 - 14x + 8$

8. Factor Completely

a) $2x^2 + 12x + 10$

e) $3x^3 - 27x$

i) $3x^2 + 6x - 72$

b) $x^3 - 25x$

f) $x^3 - 13x^2 - 30x$

j) $2x^3 + 28x^2 + 98x$

c) $x^4 - 1$

g) $4x^2 - 4x - 120$

k) $5x^2 - 320$

d) $x^3 + 5x^2 - 50x$

h) $4x^2 - 100$

l) $7x^3 - 700x$

9. Matching

_____ a. $x^2 - 16$

i $(x - 4)^2$

_____ b. $6x^3 - 6x$

ii $4x(x + 3)(x - 1)$

_____ c. $x^2 - 8x + 16$

iii $(4 - x)(4 + x)$

_____ d. $4x^3 + 8x^2 - 12x$

iv $(6x + 1)(x + 3)$

_____ e. $6x^2 + 19x + 3$

v $(x - 4)(x + 4)$

_____ f. $16 - x^2$

vi $6x(x - 1)(x + 1)$

10. Find the area **and** perimeter of a square with side $(x - 13)$.