Algebra I: Chapter 8 Test **Name_____**

SHOW ALL WORK and BOX ALL FINAL ANSWERS.

Write the polynomial in descending order. Also, identify the degree and leading coefficient.

1. $2 - 6y$

2. $-2h^2 + 3h^4 - h^6$

Find the sum or difference. Write final answer in descending order.

3. $(-5x^2 + 3x - 8) + (-2x^2 + 4x - 6)$

4. $(3a + 2a^4 - 5) - (a^3 + 4a^4 - 5a - 6)$

Find the product. Write final answer in descending order.

5. $3c^3(8c^4 - c^2 - 3c + 5)$

6. $(3x + 4)(5x - 8)$

7. $(x + 3)(x^2 - 2x + 6)$

Factor out the greatest common monomial.

8. $5x^6 + 2x^2$

9. $9m^7 - 3m^2$

10. $2x^5 + 8x^3 - 4x^2$

Factor each expression.

11. $x^2 + 4x - 32$

12. $c^2 + 8c + 15$

13. $y^2 - 7y - 18$

Solve the equation by factoring.

14. $8x^2 - 4x = 0$

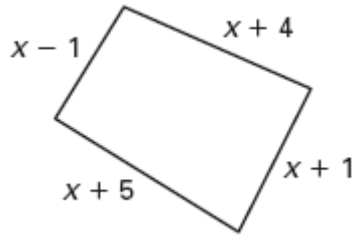
15. $x^2 - 10x + 21 = 0$

16. $x(x + 8) = -15$

Solve each word problem. SHOW ALL WORK.

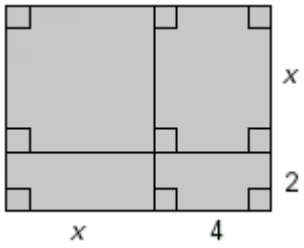
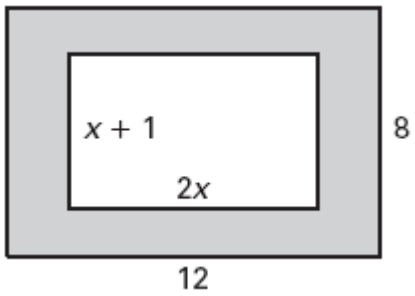
Write a polynomial that represents the perimeter of the figure.

17.



Write a polynomial for the area of the shaded region.

18.



19.