Operations of Polynomials Review

1. For the following questions, identify the degree, the type of polynomial based on the degree, and the type of polynomial based on the number of terms.

	Degree	***Type based on degree: quartic, constant, linear, cubic, quadratic***	***Type base on number of terms: polynomial, binomial, monomial, trinomial***	***Leading Coefficient***	***Standard Form***
9					
$-2r + 7r^4 - 5r^3 + 4r^2$					
$5x - 18x^2 - 7$					
$9 + 4r$					

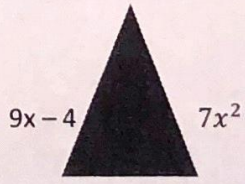
Find the sum or difference.

2. $(7x^2 + 4) - (3x^2 + 2x - 6)$

3. $(4x^3 + x^2 - 1) + (2 - x - x^2)$

4. What is the sum of $2x^4 + 5x^3 - 8x^2 - x + 10$ and $8x^4 - 4x^3 + x^2 - x + 2$?

5. Find the perimeter.



$5x^2 + 7x - 1$

Multiply the polynomials. Make sure your answers are in standard form and show work for full credit.

6. $7rs(6r^2s - 9rs^2 - 8s^3)$

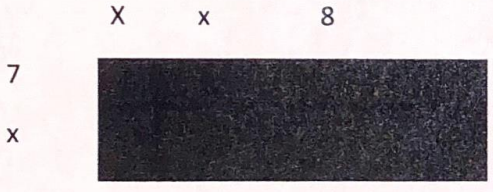
7. $(5x^3 - 6x^2)\,7x^4$

8. $(3x^4 - 4)^2$

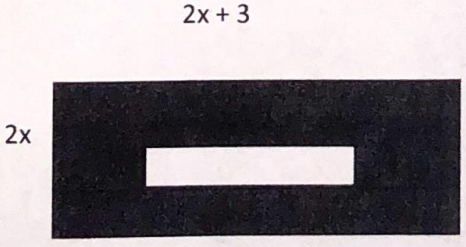
9. $(8 - x)(8 + x)$

10. What is the area of a rectangle with a length of x + 8 and a width of 4x + 3?

11. What is the product of the expression represented by the model below?



12. Find the area of the shaded region:



13. Find the volume of a cube whose side measures x + 3