Polynomial Test

What is the sum or difference?

1. $6x^7 + 8x^7$

$$14x^7$$

2. $2x^7 - 8x^7$ $-6x^7$

Write the polynomial in standard form. Then name the polynomial based on its degree and number of terms.

3. $3x + 2x^2 - 6$

$$2x^2 + 3x - 6 \quad \text{-3pts}$$

1pt   quadratic   trinomial   1pt

Simplify the sum or difference.

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

$$2u^3 + (2u^3) + 6u^2 - 7u + 3 + (6)$$

$$4u^3 + 6u^2 - 7u + 9$$

5. $(4w^2 - 7w - 6) - (8w^2 + 2w - 3)$

$$4w^2 - (8w^2) - 7w - (2w) - 6 - (-3)$$

$$-4w^2 - 5w - 3$$

Find the GCF of the terms of the polynomial.

6. $48x^6 + 6x^2 - 26x^3$

$48 = 1, 2, 3, 4, 12, 16, 24, 48$

$GCF = 2x^2$

$6 = 1, 2, 3, 6$

$26 = 1, 2, 13, 26$

Factor the polynomial.

7. $\dfrac{25w^6}{5w^3} + \dfrac{35w^3}{5w^3}$

$25 = 1, 5, 25$

$35 = 1, 5, 7, 35$

$GCF = 5w^3$

$5w^3 \left(5w^3 + 7 \right)$

Simplify the product. (May use any method).

8. $(3h - 7)(3h - 6)$

	$3h$	-7
$3h$	$9h^2$	$-21h$
-6	$-18h$	42

$-21h + (-18h) = -39h$

$9h^2 - 39h + 42$

9. $(3x + 4)(2x - 6)$

	$3x$	4
$2x$	$6x^2$	$8x$
-6	$-18x$	-24

$8x + (-18x) = -10x$

$6x^2 - 10x - 24$

What is a simpler form of each product?

10. $(7m + 5)^2$

	$7m$	5
$7m$	$49m^2$	$35m$
5	$35m$	25

$35m + 35m = 70m$

$49m^2 + 70m + 25$

What is a simpler form of the following expressions?

11. $(4p - 8)(4p + 8)$

	$4p$	-8
$4p$	$16p^2$	$-32p$
8	$32p$	-64

$-32p + 32p = 0p$

$16p^2 - 64$

12. $(7m^2 - 5)(7m^2 + 5)$

	$7m^2$	-5
$7m^2$	$49m^4$	$-35m^2$
5	$35m^2$	-25

$35m^2 - 35m^2 = 0$

$49m^4 - 25$