

Operations with Polynomials Review WS

Simplify each expression. Write your answer in general form.

1) $(5m^3 - 6m^4 - 4m^5) - (5m^5 - 8m^3 + 4m)$

$$\begin{array}{r} 5m^3 + 8m^3 \\ -6m^4 \\ -4m^5 - 5m^5 \\ -4m \end{array}$$

$$\boxed{-9m^5 - 6m^4 + 13m^3 - 4m}$$

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

$$\begin{array}{r} -1x + 6x \\ -6 - 3 \\ -7x^3 \\ +6x^4 \end{array}$$

$$\boxed{6x^4 - 7x^3 + 5x - 9}$$

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

$$\boxed{-10x^5 + 2x^4}$$

4) $(1 - 4p^5 - 7p^2) + (-4 - 5p^5 - 2p^2)$

$$\boxed{-9p^5 - 9p^2 - 3}$$

5) $(6 + 2n + 8n^5) + (4n^5 - n - 1)$

$$\boxed{12n^5 + n + 5}$$

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

$$\boxed{-8x^3 - 2x - 4}$$

7) $(8p^4 - 8p^3 + 3p^5) + (p^5 + 3p^4 + 3p^3)$

$$\boxed{4p^5 + 11p^4 - 5p^3}$$

8) $(4x^2 + 7 + 6x^5) - (-8 + 4x^5 + x^4)$

$$\boxed{2x^5 - x^4 + 4x^2 + 15}$$

9) $(-2n^5 + 5n^3 + 6n^2) - (8n^5 - 7n^2 - 2n^3)$

$$-10n^5 + 7n^3 + 13n^2$$

10) $(8b^2 - 4b^5 - 6b^3) + (3b^2 + 5b^3 - 8b^5)$

$$-12b^5 - b^3 + 11b^2$$

11) $(5v - 5)(-6v + 4)$

	5v	-5
-6v	-30v ²	+30v
+4	+20v	-20

$$-30v^2 + 50v - 20$$

12) $(4x - 6)(-x + 5)$

	-x	+5
4x	-4x ²	+20x
-6	+6x	-30

$$-4x^2 + 26x - 30$$

13) $(-5b + 3)(2b - 5)$

$$-10b^2 + 31b - 15$$

14) $(4a + 6)(5a - 6)$

$$20a^2 + 6a - 36$$

15) $(5m + 5)(5m - 5)$

$$(5m)^2 - (5)^2$$

$$25m^2 - 25$$

16) $(m + 5)(m - 5)$

$$(m)^2 - (5)^2$$

$$m^2 - 25$$

17) $(2a + 8)^2$

$$(2a)^2 + 2(2a)(8) + (8)^2$$

$$4a^2 + 32a + 64$$

18) $(3k - 3)^2$

$$(3k)^2 + 2(3k)(-3) + (-3)^2$$

$$9k^2 - 18k + 9$$