

NO CALCULATOR MAY BE USED!

- (1) Determine the sum of the following expressions and write the answer in ascending order of x :

$$-2x + x^7 - 3 + 5x^2 + 12x^4 \quad \text{and} \quad 4x^5 - 4x + 6x^7 - 18x^4 + 2$$

- (2) Subtract $(4mn^3 + 3mn - 5m^2n + 3)$ from $(7mn - m^2n + 4mn^3)$ and use your answer to answer the following questions:

- (a) How many terms does the expression consist of. _____
- (b) Determine the degree of the expression in m . _____
- (c) Write down the constant term. _____
- (d) Determine the value of the expression of $m = \frac{-3}{2}$ and $n = 4$.

(3) Simplify:

(a) $-2xy^3(2x^2y^2 - 3xy)$

(b) $(y - 3)(y + 3)$

(c) $4p(p - 3) + (2 + p)3$

(d) $\frac{4}{5}k^4(20k^4 - 1)$

(e) $(a - 3b)(2a + 3b)$

(f) $[(m - 4)(m + 4)]^2$

(g) $(t - 2)(3t + 1 - t^2)$

(h) $(x - 5)^2 - (x + 1)^2$

(4) Prove that: $[(x - 2)^2 - (x + 2)^2]^2 = 64x^2$
