Revision Paper 1: Expansion and Factorisation

Q1 **Expand** and simplify the following

(a) $x(-3y+4)$

(b) $(2a+5)^2$

(c) $(5x+2)(x+3)$

(d) $(3a-5b)(4a-b)$

(e) $\left(x-\frac{3}{2}\right)^2$

(f) $(2a+3b)(3a+4b)$

(g) $(7x-4y)(x+3y)$

*(h) $(x-y+z)^2-(y-z+x)^2$

*(i) $(x-y+3z)(x-2y)$

*(j) $x(x^2+2)-(x-3)(5x+7)$

Q2 **Factorise** the following completely

(a) $9mn+12m+6n+8$

(b) $25a^2-4$

(c) $16x^3-8x^2$

(d) $m^5n^3+m^4n^5+m^3n^3$

(e) $(x-3)^2-25$

(f) $2x+4y-3x-6y$

(g) $x^2+12x-45$

(h) $2x^2+7x+3$

(i) $160a^2-90b^2$

(j) $3x^2-5x-22$

(k) $8x^2+41x+36$

(l) $x^2yz-x^2z+y^2k-yk$

(m) $15x^2-44x-20$

*(n) $x^2+15x-9450=0$

*(o) $(a-b)^3-(a-b)^2$

*(p) $81-b^4$

Q3 **Evaluate** the following using factorisation

(a) $28\times 49+28\times 51$

(b) 103^2-9

(c) 1023^2-23^2

(d) $879^2+121\times 879$

Q4 If $a^2-b^2=84$ and $a-b=4$, find the value of $(a+b)^2$.

Q5 Given that $a^2-b^2=96$ and $a+b=16$, find the value of $a-b$.