QT Multiplying out brackets

1. Multiply out the brackets and simplify where possible

a.	$4(x + y + z)$ $4x + 4y + 4z$	b.	$5(x + y - z)$ $5x + 5y - 5z$
c.	$x(x + 6)$ $x^2 + 6x$	d.	$x(x - 9)$ $x^2 - 9x$
e.	$-3(x + 2)$ $-3x - 6$	f.	$-4(x - 5)$ $-4x + 20$
g.	$7a(a + b + c)$ $7a^2 + 7ab + 7ac$	h.	$5b(a - b + c)$ $5ab - 5b^2 + 5bc$
i.	$a - 4(a + b)$ $a - 4a - 4b = -3a - 4b$	j.	$4(x + 2) + 2(x + 1)$ $4x + 8 + 2x + 2 = 6x + 10$
k.	$7(x - 2) - 2(x - 1)$ $7x - 14 - 2x + 2$ $5x - 12$	l.	$4e(e + 2f) + 2f(e - f)$ $4e^2 + 8ef + 2ef + 2f^2$ $4e^2 + 10ef + 2f^2$ $-$!

2. Multiply out the brackets and simplify where possible

a.	$(x+2)(x+3)$ x^2+5x+6 $x^2+3x+2x+6$	b.	$(x+3)(x-3)$ $x^2-3x+3x-9$ x^2-9
c.	$(x-3)(x+4)$ $x^2+4x-3x-12$ x^2+x-12	d.	$(6+x)(7+x)$ $42+6x+7x+x^2$ $x^2+13x+42$
e.	$(x+100)(x+3)$ $x^2+3x+100x+300$ $x^2+103x+300$		$(2x+4)(2x+3)$ $4x^2+6x+8x+12$ $4x^2+14x+12$
g.	$(x-3)(x-3)$ $x^2-3x-3x+9$ x^2-6x+9	h.	$(x-4)(x-5)$ $x^2-5x-4x+20$ $x^2-9x+20$
i.	$(4x+6)(3x+3)$ $12x^2+12x+18x+18$ $12x^2+30x+18$		$(3x+2y)^2$ $(3x+2y)(3x+2y)$ $9x^2+6xy+6xy+4y^2$ $9x^2+12xy+4y^2$

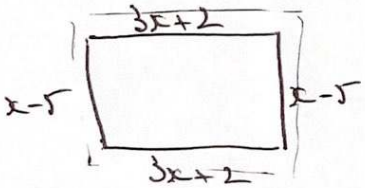
3. Find the product of $5x-2$ and $4x+3$

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

$20x^2+15x-8x-6$

$20x^2+7x-6$

4. A rectangular swimming pool has a length of $(3x+2)$ metres and a width of $(x-5)$ metres.
Write down a simplified expression for
a. the perimeter of the swimming pool
b. the area of the swimming pool



(a) $3x+2+x-5+3x+2+x-5$

$8x-6$

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

$3x^2-15x+2x-10$

$3x^2-13x-10$