N5 Maths: Completing the Square

Q1 Express each of the following trinomial expressions as a perfect square $(x+p)^2$.

a) x^2+2x+1 **b)** x^2+6x+9 **c)** x^2-6x+9

d) $x^2+10x+25$ **e)** $x^2-8x+16$ **f)** $x^2-12x+36$

g) $x^2+3x+\frac{9}{4}$ **h)** $x^2+5x+\frac{25}{4}$ **i)** $x^2-7x+\frac{49}{4}$

Q2 Express each of the following expressions in the form $(x+p)^2+q$.

a) x^2+2x+7 **b)** x^2+4x-5 **c)** $x^2+6x+12$

d) x^2+8x+6 **e)** $x^2+10x-1$ **f)** $x^2+12x+31$

g) $x^2+14x+40$ **h)** $x^2+16x+80$ **i)** $x^2+18x-19$

Q3 Express each of the following expressions in the form $(x+p)^2+q$.

a) x^2-2x+3 **b)** x^2-4x+1 **c)** x^2-6x+7

d) x^2-8x+2 **e)** x^2-10x **f)** $x^2-12x+19$

g) $x^2-14x-3$ **h)** $x^2-16x+55$ **i)** $x^2-18x+26$

Q4 Express each of the following expressions in the form $(x+a)^2+b$.

a) x^2+3x+1 **b)** x^2+x+2 **c)** x^2+5x-3

d) x^2+3x **e)** x^2+7x-4 **f)** x^2+9x+8

g) x^2+5x-4 **h)** $x^2+11x+6$ **i)** x^2+7x-9

Q5 Express each of the following expressions in the form $(x+m)^2+n$.

a) x^2-3x+4 **b)** x^2-x+3 **c)** x^2-5x-6

d) x^2-3x+8 **e)** x^2-7x-5 **f)** x^2-9x-2

g) x^2-5x-9 **h)** $x^2-11x-12$ **i)** $x^2-7x+15$

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