N5 Maths: Quadratic Equations

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Questions 1 to 6 are non-calculator and should be solved algebraically.

Q1 **a)** $x(x-2)=0$ **b)** $a(a+3)=0$ **c)** $(t+5)(t-4)=0$

Q2 **a)** $x^2-4x=0$ **b)** $x^2+5x=0$ **c)** $2x^2-x=0$

Q3 **a)** $x^2-25=0$ **b)** $x^2-49=0$ **c)** $2x^2-18=0$

Q4 **a)** $x^2-6x+5=0$ **b)** $x^2-5x+6=0$ **c)** $z^2-7z+12=0$

d) $x^2-3x-4=0$ **e)** $c^2+2c-8=0$ **f)** $x^2-5x-36=0$

g) $n^2-6n+9=0$ **h)** $x^2+10x+16=0$ **i)** $x^2-10x+24=0$

Q5 **a)** $2x^2+7x-4=0$ **b)** $3a^2-a-2=0$ **c)** $4x^2-11x-3=0$

d) $4x^2-4x-3=0$ **e)** $3x^2-29x+18=0$ **f)** $6x^2+13x+6=0$

g) $5x^2+38x-16=0$ **h)** $8x^2+2x-15=0$ **i)** $24x^2-73x+24=0$

Q6 **a)** $x^2=4$ **b)** $3x^2=0$ **c)** $16-x^2=0$

d) $r^2=3r$ **e)** $x^2+4x=-3$ **f)** $16t-t^2=60$

g) $12-p^2=p$ **h)** $x(2x-5)=x^2-6$ **i)** $(2x+1)(x-6)=x(x-10)$

You may use a calculator to solve the equations in Question 7.

Use the quadratic formula $x=\frac{-b\pm\sqrt{b^2-4ac}}{2a}$ and give each solution correct to 1 decimal place.

Q7 **a)** $x^2-7x-1=0$ **b)** $2x^2-x-2=0$ **c)** $3n^2-8n+2=0$

d) $-2x^2+x+5=0$ **e)** $-a^2+a+5=0$ **f)** $5x^2+8x-3=0$

g) $x^2+7x=2$ **h)** $3x^2=x+9$ **i)** $1=x+4x^2$

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