



## QUADRATIC EQUATIONS SOLVE BY FACTORISING

NO CALCULATOR

Ref: G233. **1E1**

<b>A1</b> Solve $x(x + 3) = 18$	<b>A2</b> Solve $x(x - 11) = 42$	<b>A3</b> Solve $x(x - 7) = 4(x - 6)$	<b>A4</b> Solve $x(x + 11) = 4(x + 4) + 2$
<b>B1</b> Solve $(x + 2)(x + 3) = 2$	<b>B2</b> Solve $(x + 5)(x + 3) = 3$	<b>B3</b> Solve $(x + 5)(x - 2) = 8$	<b>B4</b> Solve $x + 5 = \frac{1}{x + 5}$
<b>C1</b> Solve $(x + 3)^2 + 5x = 9$	<b>C2</b> Solve $x^2 + (x + 1)^2 = (x + 2)^2$	<b>C3</b> Solve $(x + 1)^2 + 3(x + 1) = 10$	<b>C4</b> Solve $x^4 - 10x^2 + 9 = 0$
<b>D1</b> Solve $(x - 1)^2 - 2(x - 1) = 35$	<b>D2</b> Solve $(x + 2)^2 = 4(x + 2) - 3$	<b>D3</b> Solve $(x^2 - 15)(x^2 - 10) = 6$	<b>D4</b> Solve $(2x + 1)(x - 3) = (x + 3)^2$



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Ref: G233. **1E1**

<p><b>A1</b> Solve</p> $x(x+3) = 18$ $x^2 + 3x - 18 = 0$ $(x-3)(x+6) = 0$ <p style="text-align: center;"> </p> <p><math>x = 3</math>      <math>x = -6</math></p>	<p><b>A2</b> Solve</p> $x(x-11) = 42$ $x^2 - 11x - 42 = 0$ $(x-14)(x+3) = 0$ <p style="text-align: center;"> </p> <p><math>x = 14</math>      <math>x = -3</math></p>	<p><b>A3</b> Solve</p> $x(x-7) = 4(x-6)$ $x^2 - 11x + 24 = 0$ $(x-8)(x-3) = 0$ <p style="text-align: center;"> </p> <p><math>x = 8</math>      <math>x = 3</math></p>	<p><b>A4</b> Solve</p> $x(x+11) = 4(x+4) + 2$ $x^2 + 7x - 18 = 0$ $(x-2)(x+9) = 0$ <p style="text-align: center;"> </p> <p><math>x = 2</math>      <math>x = -9</math></p>
<p><b>B1</b> Solve</p> $(x+2)(x+3) = 2$ $x^2 + 5x + 4 = 0$ $(x+1)(x+4) = 0$ <p style="text-align: center;"> </p> <p><math>x = -1</math>      <math>x = -4</math></p>	<p><b>B2</b> Solve</p> $(x+5)(x+3) = 3$ $x^2 + 8x + 12 = 0$ $(x+2)(x+6) = 0$ <p style="text-align: center;"> </p> <p><math>x = -2</math>      <math>x = -6</math></p>	<p><b>B3</b> Solve</p> $(x+5)(x-2) = 8$ $x^2 + 3x - 18 = 0$ $(x-3)(x+6) = 0$ <p style="text-align: center;"> </p> <p><math>x = 3</math>      <math>x = -6</math></p>	<p><b>B4</b> Solve</p> $(x+5)(x+5) = 1$ $x^2 + 10x + 24 = 0$ $(x+4)(x+6) = 0$ <p style="text-align: center;"> </p> <p><math>x = -4</math>      <math>x = -6</math></p>
<p><b>C1</b> Solve</p> $(x+3)^2 + 5x = 9$ $x^2 + 11x = 0$ $x(x+11) = 0$ <p style="text-align: center;"> </p> <p><math>x = 0</math>      <math>x = -11</math></p>	<p><b>C2</b> Solve</p> $x^2 + (x+1)^2 = (x+2)^2$ $x^2 - 2x - 3 = 0$ $(x-3)(x+1) = 0$ <p style="text-align: center;"> </p> <p><math>x = 3</math>      <math>x = -1</math></p>	<p><b>C3</b> Solve</p> $y = x + 1$ $(x+1)^2 + 3(x+1) = 10$ $y^2 + 3y - 10 = 0$ $(y-2)(y+5) = 0$ <p style="text-align: center;"> </p> <p><math>y = 2</math>      <math>x = 1</math>      <math>y = -5</math>      <math>x = -6</math></p>	<p><b>C4</b> Solve</p> $y = x^2$ $x^4 - 10x^2 + 9 = 0$ $y^2 - 10y + 9 = 0$ $(y-9)(y-1) = 0$ <p style="text-align: center;"> </p> <p><math>y = 9</math>      <math>x = \pm 3</math>      <math>y = 1</math>      <math>x = \pm 1</math></p>
<p><b>D1</b> Solve</p> $y = x - 1$ $(x-1)^2 - 2(x-1) = 35$ $y^2 - 2y - 35 = 0$ $(y-7)(y+5) = 0$ <p style="text-align: center;"> </p> <p><math>y = 7</math>      <math>x = 8</math>      <math>y = -5</math>      <math>x = -4</math></p>	<p><b>D2</b> Solve</p> $y = x + 2$ $(x+2)^2 = 4(x+2) - 3$ $y^2 - 4y + 3 = 0$ $(y-3)(y-1) = 0$ <p style="text-align: center;"> </p> <p><math>y = 3</math>      <math>x = 1</math>      <math>y = 1</math>      <math>x = -1</math></p>	<p><b>D3</b> Solve</p> $y = x^2$ $(x^2 - 15)(x^2 - 10) = 6$ $(y - 15)(y - 10) = 6$ $y^2 - 25y - 144 = 0$ <p style="text-align: center;"> </p> <p><math>y = 16</math>      <math>x = \pm 4</math>      <math>y = 9</math>      <math>x = \pm 3</math></p>	<p><b>D4</b> Solve</p> $(2x+1)(x-3) = (x+3)^2$ $2x^2 - 5x - 3 = x^2 + 6x + 9$ $x^2 - 11x - 12 = 0$ <p style="text-align: center;"> </p> <p><math>x = 12</math>      <math>x = -1</math></p>