



## FACTORISING QUADRATICS

### STAGE ONE

Ref: G227. **2F1**

<b>A1</b> Factorise: $x^2 + 2x + 1$	<b>A2</b> Factorise: $x^2 + 3x + 2$	<b>A3</b> Factorise: $x^2 + 4x + 3$	<b>A4</b> Factorise: $x^2 + 4x + 4$
<b>B1</b> Factorise: $x^2 + 5x + 4$	<b>B2</b> Factorise: $x^2 + 5x + 6$	<b>B3</b> Factorise: $x^2 + 6x + 5$	<b>B4</b> Factorise: $x^2 + 6x + 9$
<b>C1</b> Factorise: $x^2 + 7x + 6$	<b>C2</b> Factorise: $x^2 + 7x + 12$	<b>C3</b> Factorise: $x^2 + 7x + 10$	<b>C4</b> Explain why... $x^2 + 7x + 8$  does not factorise.
<b>D1</b> Factorise: $x^2 + 8x + 7$	<b>D2</b> Factorise: $x^2 + 9x + 14$	<b>D3</b> Factorise: $x^2 + 10x + 21$	<b>D4</b> Factorise: $x^2 + 12x + 20$
<b>E1</b> Factorise: $x^2 + 19x + 18$	<b>E2</b> Factorise: $x^2 + 9x + 18$	<b>E3</b> Factorise: $x^2 + 11x + 18$	<b>E4</b> Explain why... $x^2 + 8x + 18$  does not factorise.



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<p><b>A1</b> Factorise:  <math>x^2 + 2x + 1</math> → <math>1 \times 1</math>  <math>(x + 1)(x + 1)</math></p>	<p><b>A2</b> Factorise:  <math>x^2 + 3x + 2</math> → <math>1 \times 2</math>  <math>(x + 1)(x + 2)</math></p>	<p><b>A3</b> Factorise:  <math>x^2 + 4x + 3</math> → <math>1 \times 3</math>  <math>(x + 1)(x + 3)</math></p>	<p><b>A4</b> Factorise:  <math>x^2 + 4x + 4</math> → <math>1 \times 4</math>  <math>2 \times 2</math> *  <math>(x + 2)(x + 2)</math></p>
<p><b>B1</b> Factorise:  <math>x^2 + 5x + 4</math> → <math>1 \times 4</math> *  <math>2 \times 2</math>  <math>(x + 1)(x + 4)</math></p>	<p><b>B2</b> Factorise:  <math>x^2 + 5x + 6</math> → <math>1 \times 6</math>  <math>2 \times 3</math> *  <math>(x + 2)(x + 3)</math></p>	<p><b>B3</b> Factorise:  <math>x^2 + 6x + 5</math> → <math>1 \times 5</math> *  <math>(x + 1)(x + 5)</math></p>	<p><b>B4</b> Factorise:  <math>x^2 + 6x + 9</math> → <math>1 \times 9</math>  <math>3 \times 3</math> *  <math>(x + 3)(x + 3)</math></p>
<p><b>C1</b> Factorise:  <math>x^2 + 7x + 6</math> → <math>1 \times 6</math> *  <math>2 \times 3</math>  <math>(x + 1)(x + 6)</math></p>	<p><b>C2</b> Factorise:  <math>x^2 + 7x + 12</math> → <math>1 \times 12</math>  <math>2 \times 6</math>  <math>3 \times 4</math> *  <math>(x + 3)(x + 4)</math></p>	<p><b>C3</b> Factorise:  <math>x^2 + 7x + 10</math> → <math>1 \times 10</math>  <math>2 \times 5</math> *  <math>(x + 2)(x + 5)</math></p>	<p><b>C4</b> Explain why...  <math>x^2 + 7x + 8</math>  There are not any factor pairs of 8, which add to make 7</p>
<p><b>D1</b> Factorise:  <math>x^2 + 8x + 7</math> → <math>1 \times 7</math> *  <math>(x + 1)(x + 7)</math></p>	<p><b>D2</b> Factorise:  <math>x^2 + 9x + 14</math> → <math>1 \times 14</math>  <math>2 \times 7</math> *  <math>(x + 2)(x + 7)</math></p>	<p><b>D3</b> Factorise:  <math>x^2 + 10x + 21</math> → <math>1 \times 21</math>  <math>3 \times 7</math> *  <math>(x + 3)(x + 7)</math></p>	<p><b>D4</b> Factorise:  <math>x^2 + 12x + 20</math> → <math>1 \times 20</math>  <math>2 \times 10</math> *  <math>4 \times 5</math>  <math>(x + 2)(x + 10)</math></p>
<p><b>E1</b> Factorise:  <math>x^2 + 19x + 18</math> → <math>1 \times 18</math> *  <math>2 \times 9</math>  <math>3 \times 6</math>  <math>(x + 1)(x + 18)</math></p>	<p><b>E2</b> Factorise:  <math>x^2 + 9x + 18</math> → <math>1 \times 18</math>  <math>2 \times 9</math>  <math>3 \times 6</math> *  <math>(x + 3)(x + 6)</math></p>	<p><b>E3</b> Factorise:  <math>x^2 + 11x + 18</math> → <math>1 \times 18</math>  <math>2 \times 9</math> *  <math>3 \times 6</math>  <math>(x + 2)(x + 9)</math></p>	<p><b>E4</b> Explain why...  <math>x^2 + 8x + 18</math>  There are not any factor pairs of 18, which add to make 8</p>