Expanding and factorising quadratics

6 questions | 13 marks

Equivalent correct methods earn the corresponding marks.

1. Expand $(x+3)(x+8)$. [2 marks]

The products are $x^2+8x+3x+24$.

Collect the linear terms.

Answer: $x^2+11x+24$

2. Expand $(2x-5)(x+4)$. [2 marks]

Multiply: $2x^2+8x-5x-20$.

Collect $8x-5x$.

Answer: $2x^2+3x-20$

3. Factorise $x^2+2x-35$. [2 marks]

Find product -35 and sum 2: 7 and -5.

Write the corresponding brackets.

Answer: $(x+7)(x-5)$

4. Factorise $4x^2 - 25$. [2 marks]

Recognise $(2x)^2 - 5^2$.

Use difference of squares.

Answer: $(2x - 5)(2x + 5)$

5. Factorise $3x^2 - 12x$. [2 marks]

The common factor is 3x.

Divide both terms by it.

Answer: $3x(x - 4)$

6. Factorise $2x^2 - 7x + 3$. [3 marks]

Split -7x into -6x-x.

Group $2x(x - 3) - 1(x - 3)$.

Answer: $(2x - 1)(x - 3)$