Expanding and Factorising

Junior Cycle Maths · Junior Cycle and Transition Year · About 25 minutes · 8 questions

Name _____ Date _____ Score / 8

WHAT YOU WILL PRACTISE

- Expand single and double brackets and simplify
- Factorise by taking out a common factor
- Factorise quadratics, including the difference of two squares

WORKED EXAMPLE

Factorise $x^2 + 2x - 15$.

1. Find two numbers that multiply to -15 and add to 2.
2. The numbers are 5 and -3, because $5 \times -3 = -15$ and $5 + -3 = 2$.
3. Write the brackets: $(x + 5)(x - 3)$.
4. Check by expanding: $x^2 - 3x + 5x - 15 = x^2 + 2x - 15$.

Answer: $(x + 5)(x - 3)$

Questions

Show your working in the space under each question.

1. Expand $4(x + 3)$

2. Expand and simplify $3(2x - 1) + 2(x + 5)$

3. Expand and simplify $(x + 3)(x + 5)$

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4. Expand and simplify $(x - 4)(x + 6)$

5. Expand and simplify $(2x + 1)(x - 3)$

6. Factorise $6x + 15$

7. Factorise $x^2 + 7x + 12$

8. Factorise $x^2 - 49$

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Answers: Expanding and Factorising

Mark your own work, then go back to any question you got wrong before reading the tutor tip.

Q	QUESTION	ANSWER
1	Expand $4(x + 3)$	**$4x + 12$**
2	Expand and simplify $3(2x - 1) + 2(x + 5)$	**$8x + 7$**
3	Expand and simplify $(x + 3)(x + 5)$	**$x^2 + 8x + 15$**
4	Expand and simplify $(x - 4)(x + 6)$	**$x^2 + 2x - 24$**
5	Expand and simplify $(2x + 1)(x - 3)$	**$2x^2 - 5x - 3$**
6	Factorise $6x + 15$	**$3(2x + 5)$**
7	Factorise $x^2 + 7x + 12$	**$(x + 3)(x + 4)$**
8	Factorise $x^2 - 49$	**$(x + 7)(x - 7)$**

TUTOR TIP

Always expand your factorised answer as a check. It takes ten seconds and catches almost every sign error.

Stuck on a question? Work through it live with a tutor.

YFCampus offers one-to-one online Maths tutoring matched to your school curriculum. Book a free trial class at **www.yfcampus.com/ie**

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