

LCOL Algebra 11 — Factorising 4

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How to use this sheet: these are the exact questions worked in this tutorial, in order. Try each one yourself first — the time it is posed in the video is shown, so you can pause before Paul solves it. Final answers are at the back; the full method is in the video.

Worked examples (in the video)

Example 1. Factorise $x^2 + 12x + 35$ (multiply first $\times$ last, find the two numbers, split the middle, group). (worked 00:39–04:46).

Example 2. Factorise $2x^2 - x - 6$ (a number in front of x^2 — same four steps). (worked 04:46–09:08).

Questions

Q1. Factorise $x^2 - 8x + 15$.

Posed at 09:08 in the tutorial.

Q2. Factorise $x^2 + 3x - 28$.

Posed at 12:03 in the tutorial.

Q3. Factorise $x^2 + 7x + 10$.

Posed at 14:43 in the tutorial.

Q4. Factorise $x^2 - 5x + 6$.

Posed at 16:42 in the tutorial.

Q5. Factorise $2x^2 - 3x - 2$.

Posed at 19:41 in the tutorial.

Q6. Factorise $3x^2 - 7x + 2$.

Posed at 22:26 in the tutorial.

Q7. Factorise $3x^2 + 19x - 14$.

Posed at 24:52 in the tutorial.

Q8. Factorise $3x^2 - 13x - 10$.

Posed at 27:46 in the tutorial.

Q9. Factorise $5x^2 - 13x - 6$.

Posed at 30:51 in the tutorial.

Q10. Factorise $5x^2 - 13x + 6$ (same middle as Q9 — but the PRODUCT sign differs).

Posed at 33:12 in the tutorial.

Answers

Final answers only — pause the video and check yourself; the worked method is in the tutorial.

Example 1. $(x + 5)(x + 7)$

Example 2. $(2x + 3)(x - 2)$

Q1. $(x - 3)(x - 5)$

Q2. $(x - 4)(x + 7)$

Q3. $(x + 2)(x + 5)$

Q4. $(x - 2)(x - 3)$

Q5. $(2x + 1)(x - 2)$

Q6. $(x - 2)(3x - 1)$

Q7. $(x + 7)(3x - 2)$

Q8. $(x - 5)(3x + 2)$

Q9. $(x - 3)(5x + 2)$

Q10. $(5x - 3)(x - 2)$

Overlaps with these tutorials

LCOL Algebra 10 — Factorising 3 (grouping). Grouping is the engine that splits the middle term — do it first.

LCOL Algebra 14 — Solving Quadratic Equations and **Algebra 15 — the $-b$ Formula.** What you do with a factorised quadratic. Come next.