

LCOL Algebra 10 — Factorising 3

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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 by grouping: $6x^2 - 3xy + 8x - 4y$. (worked 00:53–04:48).

Example 2. Factorise $12xy - 15x - 8y + 10$ (choose the SIGN of the factor so the brackets match). (worked 04:48–09:24).

Example 3. Factorise $2x^2 + 3y - 2xy - 3x$ (rearrange first so each pair shares something). (worked 09:24–14:43).

Questions

Part 1. Factorise $2x^2 - 6x - 5x^2y + 15xy$.

Posed at 14:43 in the tutorial.

Part 2. Factorise $15x^3 - 20x - 21x^2 + 28$.

Posed at 16:42 in the tutorial.

Part 3. Factorise $ab - a + b - 1$.

Posed at 18:51 in the tutorial.

Part 4. Factorise $3x^2y - 21x^2 - 2y + 14$.

Posed at 20:48 in the tutorial.

Answers

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

Example 1. $(2x - y)(3x + 4)$

Example 2. $(4y - 5)(3x - 2)$

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

Part 1. $(x - 3)(2x - 5xy)$

Part 2. $(3x^2 - 4)(5x - 7)$

Part 3. $(b - 1)(a + 1)$

Part 4. $(y - 7)(3x^2 - 2)$

Overlaps with these tutorials

LCOL Algebra 8 — Factorising 1. Grouping takes the common factor out of each pair — get that habit first.

LCOL Algebra 11 — Factorising 4 (quadratics). Built directly on grouping. Comes next.