

LCOL Algebra 8 — Factorising 1

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ON THE LCOL PAST PAPERS · Examined in 1 question-part, 2025 (main sitting) | 2025: P1 Q3(c)(i)

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 $3x^2 - 12x$ (biggest common number, then the common letters).
(worked 01:51-05:24).

Example 2. Factorise $7x^2y - 14x$. (worked 06:16-08:43).

Example 3. Factorise $6x^3 - 12x^2y - 18x^3y$. (worked 08:48-13:11).

Questions

(i). Factorise $10x^2 - 5xy$.

Posed at 13:48 in the tutorial.

(ii). Factorise $12ab^3 - 24a^3b$.

Posed at 14:32 in the tutorial.

(iii). Factorise $6x^2 - 5xy$.

Posed at 16:04 in the tutorial.

(iv). Factorise $7x^2 - 21y^2$.

Posed at 17:07 in the tutorial.

Answers

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

Example 1. $3x(x - 4)$

Example 2. $7x(xy - 2)$

Example 3. $6x^2(x - 2y - 3xy)$

(i). $5x(2x - y)$

(ii). $12ab(b^2 - 2a^2)$

(iii). $x(6x - 5y)$

(iv). $7(x^2 - 3y^2)$

Overlaps with these tutorials

LCOL Algebra 3 — Multiplication of Algebraic Expressions. Factorising is the reverse of multiplying out a bracket — do that one first, then check every answer by multiplying back out.

LCOL Algebra 9 — Factorising 2 (difference of two squares). The next factorising type; always try 'take out the common factor' first.

LCOL Algebra 14 — Solving Quadratic Equations. Every 'let each factor equal zero' question starts with factorising — this is one of the four types you'll need.