

LCOL Algebra 13 — Fractions 3

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ON THE LCOL PAST PAPERS · Examined in 3 question-parts, 2018-2020 (main sittings) | 2020: P1 Q2(a) · 2019: P1 Q4(a) · 2018: P1 Q6(b)

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. Express as one fraction: $3/(x + 2) - 7/(3x - 5)$. (worked 02:29-05:52).

Example 2. Express $2/(3x - 5) + 9/(x + 3)$ as one fraction; hence solve $= 2$. (worked 05:52-18:37).

Questions

Q1. Express $5/(x - 2) - 3/(x + 2)$ as one fraction; hence solve $= 2$.

Posed at 20:13 in the tutorial.

Q2. Express $2/(3x - 4) - 1/(2x + 1)$ as one fraction; hence solve $= 1/2$ (answers to 1 d.p.).

Posed at 25:34 in the tutorial.

Answers

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

Example 1. $\frac{2x - 29}{(x + 2)(3x - 5)}$

Example 2. $\frac{29x - 39}{(3x - 5)(x + 3)}$; then $2x^2 - 7x + 3 = 0 \rightarrow x = \frac{1}{2}$ or $x = 3$

Q1. $\frac{2x + 16}{(x - 2)(x + 2)}$; then $x^2 - x - 12 = 0 \rightarrow x = -3$ or $x = 4$

Q2. $\frac{x + 6}{(3x - 4)(2x + 1)}$; then $6x^2 - 7x - 16 = 0$ ($-b$ formula) $\rightarrow x \approx 2.3$ or $x \approx -1.2$

Overlaps with these tutorials

LCOL Algebra 6/7 — Fractions and **Algebra 10/11 — Factorising**. This lesson combines both — make sure they're solid first.

LCOL Algebra 14 — Solving Quadratic Equations and **Algebra 15 — the $-b$ Formula**. How the equation finishes once the fractions are cleared.