

5 Express $\frac{6x^2 - 2x + 2}{(x - 1)(2x + 1)}$ in partial fractions.

[5]

This image shows a full page of white paper designed for writing practice. It features numerous horizontal dotted lines spaced evenly apart. A large, light gray watermark is oriented diagonally from the bottom-left towards the top-right, displaying the text "bastpapierpenguin.com". The watermark is semi-transparent, allowing the underlying ruled lines to remain visible. There are no margins, text, or other markings on the page.

2 Express $\frac{6x^2 - 9x - 16}{2x^2 - 5x - 12}$ in partial fractions.

[5]

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9 Let $f(x) = \frac{2 + 11x - 10x^2}{(1 + 2x)(1 - 2x)(2 + x)}$.

(a) Express $f(x)$ in partial fractions.

[5]

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[illegible]

10 Let $f(x) = \frac{21 - 8x - 2x^2}{(1 + 2x)(3 - x)^2}$.

(a) Express $f(x)$ in partial fractions.

[5]

[illegible]

This image shows a blank sheet of white paper designed for handwriting practice. It features approximately 20 horizontal dotted lines spaced evenly down the page. A large, light gray watermark is oriented diagonally from the bottom-left towards the top-right, displaying the text "pastpaperpenquin.com". The watermark is semi-transparent, allowing the underlying ruled lines to remain visible. There are no margins, text, or other markings on the page.

10 Let $f(x) = \frac{24x + 13}{(1 - 2x)(2 + x)^2}$.

(a) Express $f(x)$ in partial fractions.

[5]

[illegible]

- (b)** Hence obtain the expansion of $f(x)$ in ascending powers of x , up to and including the term in x^2 . [5]

This image shows a blank sheet of white paper with horizontal dotted lines for writing. The lines are evenly spaced and run across the width of the page. A faint watermark, "paperpenguin.com", is visible diagonally across the center of the page.

- (c) State the set of values of x for which the expansion in (b) is valid. [1]

$$\text{Let } f(x) = \frac{5x^2 + 8x + 5}{(1 + 2x)(2 + x^2)}.$$

[5]

[illegible]



[4]

[illegible]

9 Let $f(x) = \frac{8 + 5x + 12x^2}{(1 - x)(2 + 3x)^2}$.

(a) Express $f(x)$ in partial fractions.

[5]

This image shows a full page of primary-ruled paper. It features multiple sets of horizontal dotted lines spaced evenly down the page. A large, light gray watermark with the text "pastpaperpenquin.com" is oriented diagonally from the bottom left towards the top right, covering most of the page area. The background is white, and there are no other markings or text present.

[illegible]

9 Let $f(x) = \frac{14 - 3x + 2x^2}{(2 + x)(3 + x^2)}$.

(a) Express $f(x)$ in partial fractions.

[5]

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[illegible]

10 Let $f(x) = \frac{2x^2 + 7x + 8}{(1+x)(2+x)^2}$.

(a) Express $f(x)$ in partial fractions.

[5]

[illegible]

[illegible]

9 Let $f(x) = \frac{17x^2 - 7x + 16}{(2 + 3x^2)(2 - x)}$.

(a) Express $f(x)$ in partial fractions.

[5]

[illegible]

- (b) Hence obtain the expansion of $f(x)$ in ascending powers of x , up to and including the term in x^3 .
[5]

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- (c) State the set of values of x for which the expansion in (b) is valid. Give your answer in an exact form.
[1]

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7 Let $f(x) = \frac{5x^2 + 8x - 3}{(x - 2)(2x^2 + 3)}$.

(a) Express $f(x)$ in partial fractions.

[5]

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[illegible]

[3]

[illegible]

This image shows a full page of primary-ruled paper. It features multiple sets of horizontal dotted lines spaced evenly down the page. A large, light gray watermark with the text "paperpenquini.com" is oriented diagonally from the bottom left towards the top right, spanning across the entire page. The background is white, and there are no other markings or text present.

Handwriting practice lines with a large, faint watermark reading "pasia" diagonally across the page.