



# Algebraic Fractions (Simplifying)



SCAN ME

REVISE THIS TOPIC

CHECK YOUR ANSWERS

SCAN ME

1 Simplify fully  $\frac{3a + 9}{a^3 + 3a^2}$  [2 marks]

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Answer \_\_\_\_\_

2 Simplify fully  $\frac{2x^2 - 2xy}{xy^4 - y^5}$  [2 marks]

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Answer \_\_\_\_\_

3 Simplify fully  $\frac{3b + b^3}{4b^2 + 12}$  [2 marks]

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Answer \_\_\_\_\_





4 Simplify fully  $\frac{10n^2 - 90}{2n - 6}$  [2 marks]

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Answer \_\_\_\_\_

5 Simplify fully  $\frac{4k^2 - 1}{6k^3 - 3k^2}$  [2 marks]

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Answer \_\_\_\_\_

6 Simplify fully  $\frac{4c^3 - 100c}{4c + 20}$  [2 marks]

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Answer \_\_\_\_\_





7 Simplify fully  $\frac{2x^2 - 32}{x^2 + 9x + 20}$  [3 marks]

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Answer \_\_\_\_\_

8 Simplify fully  $\frac{a^2 - 11a + 30}{a^2 - 12a + 36}$  [3 marks]

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Answer \_\_\_\_\_

9 Simplify fully  $\frac{y^2 - 7y - 18}{y^2 - 81}$  [3 marks]

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Answer \_\_\_\_\_

Turn over ►





10 Simplify fully  $\frac{9x^2 - 25}{3x^2 + 14x + 15}$  [3 marks]

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Answer \_\_\_\_\_

11 Simplify fully  $\frac{4y^2 - 9}{2y^2 - 11y + 12}$  [3 marks]

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Answer \_\_\_\_\_

12 Simplify fully  $\frac{n^2 + 11n + 24}{5n^2 + 22n + 21}$  [3 marks]

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Answer \_\_\_\_\_





13 Simplify fully  $\frac{45 - 20x^2}{2x^2 + 5x + 3}$  [3 marks]

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Answer \_\_\_\_\_

14 Simplify fully  $\frac{3x^2 + 19x + 6}{9x^2 + 6x + 1}$  [3 marks]

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Answer \_\_\_\_\_

15 Simplify fully  $\frac{3x^2 - 300}{6x^2 + 55x - 50}$  [3 marks]

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Answer \_\_\_\_\_

Turn over ►





16 Show that  $\frac{12x - 36}{x^2 + 5x} \times \frac{x^2 + 9x + 20}{3x - 9}$  can be written in the form  $a + \frac{b}{x}$  [4 marks]  
where  $a$  and  $b$  are integers.

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17 Show that  $(10x - 35) \div \frac{2x^2 - 15x + 28}{2x^2 - 32}$  can be written in the form  $ax + b$  [4 marks]  
where  $a$  and  $b$  are integers.

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18 Show that  $9x^{-3} \times \frac{3x^5 + 10x^4}{9x^2 - 100} \div \frac{x^2}{6x - 20}$  can be written in the form  $\frac{a}{x}$  where  $a$  is an integer. [4 marks]

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19  $2x - \frac{x^3 - x^2}{x^2 + 2x - 3} \times \frac{2x^2 - 1}{x^2}$  can be written in the form  $\frac{ax + b}{x + 3}$  where  $a$  and  $b$  are integers. Work out the values of  $a$  and  $b$ . [4 marks]

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$a =$  \_\_\_\_\_  $b =$  \_\_\_\_\_

