

1 Simplify fully $\frac{x^2 + 5x}{x^2 + 7x + 10}$

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(Total for question 1 is 2 marks)

2 Simplify fully $\frac{x^2 - x - 12}{x^2 - 9x + 20}$

.....

(Total for question 2 is 2 marks)

3 Simplify fully $\frac{3x^2 + 9x}{x^2 - 9}$

.....

(Total for question 3 is 2 marks)

4 Simplify fully $\frac{x + 4}{x^2 - 16}$

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(Total for question 4 is 2 marks)

5 Write $\frac{3x^2 + 11x - 4}{x^2 + 3x - 4}$ in the form $\frac{ax + b}{x + c}$ where a , b , and c are integers.

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(Total for question 5 is 3 marks)

6 Write $\frac{x^2 + 7x - 18}{2x^2 - x - 6}$ in the form $\frac{x + a}{bx + c}$ where a , b , and c are integers.

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(Total for question 6 is 3 marks)

7 Simplify fully $\frac{3x+6}{x-4} \div \frac{2x^2+9x+10}{x^2-4x}$

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(Total for question 7 is 3 marks)

8 Simplify fully $\frac{2x-2}{x+5} \div \frac{x^2-4x+3}{2x^2+13x+15}$

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(Total for question 8 is 3 marks)

9 Solve $\frac{8}{x+3} + \frac{3}{x+8} = 1$

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(Total for question 9 is 4 marks)

10 Solve $\frac{8}{3x-2} + \frac{6}{x+1} = 2$

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(Total for question 10 is 4 marks)

11 Solve $\frac{2}{5-x} + \frac{3}{x+7} = 1$

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(Total for question 11 is 4 marks)

12 Solve $\frac{7}{x+1} - \frac{4}{3x-2} = 1$

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(Total for question 12 is 4 marks)

13 Given that

$$2x + 1 : x + 2 = x + 8 : 3x - 4$$

Find the possible values of x .

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(Total for question 13 is 4 marks)

14 Given that

$$x - 1 : 2x - 3 = x + 2 : 3x - 2$$

Find the possible values of x .

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(Total for question 14 is 4 marks)

15 Given that

$$x + 9 : 5x - 1 = x + 7 : 2x - 3$$

Find the possible values of x .

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(Total for question 15 is 4 marks)

16 Given that

$$5 - 3x : 9 - x = 3x + 7 : 4 - x$$

Find the possible values of x .

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(Total for question 16 is 4 marks)