

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

(2 marks)

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

(2 marks)

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

(2 marks)

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

(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.

(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.

(3 marks)

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

(3 marks)

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

(3 marks)

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

(4 marks)

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

(4 marks)

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

(4 marks)

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

(4 marks)

13 Given that $2x + 1 : x + 2 = x + 8 : 3x - 4$
Find the possible values of x .

(4 marks)

14 Given that $x - 1 : 2x - 3 = x + 2 : 3x - 2$
Find the possible values of x .

(4 marks)

15 Given that $x + 9 : 5x - 1 = x + 7 : 2x - 3$
Find the possible values of x .

(4 marks)

16 Given that $5 - 3x : 9 - x = 3x + 7 : 4 - x$
Find the possible values of x .

(4 marks)