



Scan for the solutions

Name: _____

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1 Simplify fully $\frac{2x^2 + 6x}{4x}$

(2 marks)

Answer _____

2 Simplify fully

$$\frac{x^2 + 5x}{x^2 + 8x + 15}$$

(3 marks)

Answer _____

3 Simplify fully

$$\frac{x^2 - 9}{2x^2 + 5x - 3}$$

(3 marks)

Answer _____

4 Simplify fully $\frac{4x^2 - 9}{2x^2 + x - 6}$

(3 marks)

Answer _____

5

Write

$$\frac{3}{x+2} + \frac{5}{x-1}$$

as a single fraction in its simplest form.

(3 marks)

Answer _____

6

Show that $\frac{x+1}{x-1} - \frac{x-1}{x+1}$ can be written as $\frac{4x}{x^2-1}$.

(3 marks)

Answer _____

7

Show that

$$\frac{4}{x+3} - \frac{2}{x+5}$$

can be written as $\frac{2(x+7)}{(x+3)(x+5)}$

(3 marks)

Answer _____

8

Simplify fully

$$\left[\frac{x^2 + 7x + 10}{x^2 - 4} \right] \div \left[\frac{x^2 + 10x + 25}{3x - 6} \right]$$

(4 marks)

Answer _____

9

Show that $\frac{2x^2-8}{x-2} \div \frac{x+2}{x}$ simplifies to $2x$.

(4 marks)

Answer _____

10 Simplify fully

$$\left[\frac{2x^2 + 7x + 3}{x^2 - 9} \right] \times \left[\frac{x^2 - 3x}{4x^2 - 1} \right]$$

(4 marks)

Answer _____

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

Give your answers in the form $a \pm \sqrt{b}$, where a and b are integers.

(5 marks)

Answer _____

12 Simplify fully

$$\left(1 + \frac{2}{x} \right) \div \left(1 - \frac{4}{x^2} \right)$$

(4 marks)

Answer _____

13 Write $\frac{1}{x} + \frac{2}{x+1} + \frac{3}{x+2}$ as a single fraction.

Expand and simplify the numerator and the denominator.

(5 marks)

Answer _____

14 Show that

$$\frac{x^2 + 3x}{x^2 - x - 12} - \frac{2}{x + 1}$$

can be written as $\frac{x^2 - x + 8}{(x - 4)(x + 1)}$

(6 marks)

Answer _____

End of questions | Total 52 marks