

#1

Simplify:

$$\frac{27x^3 + 8}{9x^2 - 4}$$

#2

Simplify:

$$\frac{\frac{4}{x+3} - 1}{\frac{x-1}{5}}$$

#3

Solve:

$$\frac{8x - 3}{4x + 5} = \frac{3}{5}$$

#4

- a) Find the exclude value of x.
- b) Simplify.

$$\frac{4x^2 - 9}{6x^2 + x - 12}$$

#5

Simplify:

$$\frac{4x^2 - 9}{6x^2 + x - 12} \div \frac{2x^2 - 11x + 12}{3x^2 - 12x}$$

#6

Simplify:

$$\frac{5x}{4 - 2x} - \frac{x}{6x - 12}$$

#7

Solve:

$$\frac{2}{y + 2} + \frac{y}{y - 2} = \frac{y^2 + 4}{y^2 - 4}$$

#8

Write as a sum of partial fractions:

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

#9

Simplify:

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

#10

Simplify:

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

#11

Solve:

$$\frac{x + 4}{x} + \frac{3}{x - 4} = \frac{-16}{x^2 - 4x}$$

#12

Write as a sum of partial fractions:

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