Algebraic Fractions Revision

(a)

Simplify $\frac{x(x-5)}{x^2}$

$\frac{x-5}{x}$

(b)

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

$\frac{x}{x+5}$

(c)

Simplify $\frac{x^2-x-6}{x^2+6x+8}$

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

(d)

Simplify $\frac{3x^2-13x+4}{x^2-16}$

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

(e)

Simplify $\frac{x^2}{x-2} \times \frac{3x-6}{4x}$

$\frac{3x}{4}$

(f)

Simplify $\frac{x(x-1)}{x^2+2x} \div \frac{x^2-1}{3x}$

$\frac{3x}{(x+2)(x+1)}$

(g)

Write as a single fraction

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

$\frac{11x}{15}$

(h)

Write as a single fraction

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

$\frac{7x}{12}$

(i)

Simplify fully

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

$\frac{15+4x}{3x^2}$

(j)

Simplify fully

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

$\frac{x-5}{(x+2)(x-1)}$

(k)

Write as a single fraction

$\frac{2x-1}{5} + \frac{x+3}{4}$

$\frac{13x+11}{20}$

(l)

Simplify fully

$\frac{x}{2x+4} - \frac{3}{x^2+5x+6}$

$\frac{x^2+3x-6}{2(x+2)(x+3)}$

(m)

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

$x = 1.5$

(n)

Solve $\frac{2(x+1)}{5} = \frac{8+x}{6}$

$x = 4$

(o)

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

$x = 2, x = -2$