

Year 9 Algebraic Simplifications Part 4

QA

Simplify:

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

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

c $\frac{x-4}{3} - \frac{x+1}{6}$

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

e $\frac{5x-1}{4} - \frac{2+x}{8}$

f $\frac{3x+2}{14} - \frac{x+4}{4}$

g $\frac{1+3x}{4} - \frac{2x+3}{6}$

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

i $\frac{2x-3}{6} - \frac{4+x}{15}$

Simplify:

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

b $\frac{x-4}{5} - \frac{x-6}{7}$

c $\frac{3x-7}{4} - \frac{x-1}{2}$

d $\frac{5x-9}{7} - \frac{2-x}{3}$

e $\frac{3x+2}{4} - \frac{5-x}{10}$

f $\frac{9-4x}{6} - \frac{2-x}{8}$

g $\frac{4x+3}{3} - \frac{5-2x}{9}$

h $\frac{2x-1}{4} - \frac{1-3x}{14}$

i $\frac{3x-2}{8} - \frac{4x-3}{7}$

Simplify:

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

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

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

d $\frac{3}{x-4} + \frac{2}{x+7}$

e $\frac{7}{x+2} - \frac{3}{x+3}$

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

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

h $\frac{-2}{x-3} - \frac{4}{x-2}$

i $\frac{3}{x-5} - \frac{5}{x-6}$

Simplify:

a $\frac{4}{(x+1)^2} - \frac{3}{x+1}$

b $\frac{2}{(x+3)^2} - \frac{4}{x+3}$

c $\frac{3}{x-2} + \frac{4}{(x-2)^2}$

d $\frac{-2}{x-5} + \frac{8}{(x-5)^2}$

e $\frac{-1}{x-6} + \frac{3}{(x-6)^2}$

f $\frac{2}{(x-4)^2} - \frac{3}{x-4}$

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

h $\frac{9}{(3x+2)^2} - \frac{4}{3x+2}$

i $\frac{4}{(1-4x)^2} - \frac{5}{1-4x}$

QB

Solve the quadratic equations.

a $2x^2 - 5x - 3 = 0$

b $6x^2 + x - 2 = 0$

c $8x^2 - 14x + 3 = 0$

d $3x^2 + 5x - 2 = 0$

e $6x^2 - 11x - 10 = 0$

f $10x^2 + 11x - 6 = 0$

g $6x^2 + 5x + 1 = 0$

h $6x^2 - 7x - 10 = 0$

i $12x^2 + 5x - 2 = 0$

j $10x^2 + 31x + 15 = 0$

k $12x^2 - 8x - 15 = 0$

l $15x^2 + 13x + 2 = 0$

Solve:

a $7x^2 - 16x = 15$

b $2x^2 + 3x = 2$

c $6x^2 = 7x + 3$

d $6x^2 + 5x = 6$

e $7x^2 = 78x - 11$

f $4x^2 = 3x + 1$

g $3x^2 = 8x + 3$

h $5x^2 - 23x = 84$

i $4x^2 - 15 = 4x$

j $12x^2 = 4x + 5$

k $3x^2 - 4 = 4x$

l $6x = 2x^2 - 8$