REVIEW

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ALGEBRAIC FRACTIONS

SIMPLIFYING BY FACTORISING

Ref: G281. 1R1

A1 Simplify $\frac{x+3}{x^2+x-6}$	**A2** Simplify $\frac{x+6}{x^2+10x+24}$	**A3** Simplify $\frac{2x-18}{x^2-12x+27}$	**A4** Simplify $\frac{x^2-7x}{x^2-2x-35}$
B1 Simplify $\frac{x^2-49}{x^2+2x-35}$	**B2** Simplify $\frac{x^2-4}{x^2+6x-16}$	**B3** Simplify $\frac{x^2-16}{x^2-2x-24}$	**B4** Simplify $\frac{x^2-36}{x^2+3x-18}$
C1 Simplify $\frac{x^2+6x-16}{2x^2-x-6}$	**C2** Simplify $\frac{x^2-7x+10}{3x^2-14x-5}$	**C3** Simplify $\frac{x^2+3x}{5x^2+19x+12}$	**C4** Simplify $\frac{x^2+4x-21}{4x^2-17x+15}$
D1 Simplify $\frac{2x^2-5x-12}{2x^2-11x+12}$	**D2** Simplify $\frac{5x^2-24x-5}{5x^2-14x-3}$	**D3** Simplify $\frac{4x^2-9}{2x^2+11x+12}$	**D4** Simplify $\frac{6x^2-11x+4}{4x^2+8x-5}$

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A1 Simplify

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

A2 Simplify

$$\frac{x+6}{x^2+10x+24} = \frac{(x+6)}{(x+6)(x+4)} = \frac{1}{x+4}$$

A3 Simplify

$$\frac{2x-18}{x^2-12x+27} = \frac{2(x-9)}{(x-9)(x-3)} = \frac{2}{x-3}$$

A4 Simplify

$$\frac{x^2-7x}{x^2-2x-35} = \frac{x(x-7)}{(x-7)(x+5)} = \frac{x}{x+5}$$

B1 Simplify

$$\frac{x^2-49}{x^2+2x-35} = \frac{(x-7)(x+7)}{(x+7)(x-5)} = \frac{x-7}{x-5}$$

B2 Simplify

$$\frac{x^2-4}{x^2+6x-16} = \frac{(x-2)(x+2)}{(x+8)(x-2)} = \frac{x+2}{x+8}$$

B3 Simplify

$$\frac{x^2-16}{x^2-2x-24} = \frac{(x-4)(x+4)}{(x-6)(x+4)} = \frac{x-4}{x-6}$$

B4 Simplify

$$\frac{x^2-36}{x^2+3x-18} = \frac{(x-6)(x+6)}{(x+6)(x-3)} = \frac{x-6}{x-3}$$

C1 Simplify

$$\frac{x^2+6x-16}{2x^2-x-6} = \frac{(x+8)(x-2)}{(2x+3)(x-2)} = \frac{x+8}{2x+3}$$

C2 Simplify

$$\frac{x^2-7x+10}{3x^2-14x-5} = \frac{(x-5)(x-2)}{(3x+1)(x-5)} = \frac{x-2}{3x+1}$$

C3 Simplify

$$\frac{x^2+3x}{5x^2+19x+12} = \frac{x(x+3)}{(5x+4)(x+3)} = \frac{x}{5x+4}$$

C4 Simplify

$$\frac{x^2+4x-21}{4x^2-17x+15} = \frac{(x+7)(x-3)}{(4x-5)(x-3)} = \frac{x+7}{4x-5}$$

D1 Simplify

$$\frac{2x^2-5x-12}{2x^2-11x+12} = \frac{(2x+3)(x-4)}{(2x-3)(x-4)} = \frac{2x+3}{2x-3}$$

D2 Simplify

$$\frac{5x^2-24x-5}{5x^2-14x-3} = \frac{(5x+1)(x-5)}{(5x+1)(x-3)} = \frac{x-5}{x-3}$$

D3 Simplify

$$\frac{4x^2-9}{2x^2+11x+12} = \frac{(2x-3)(2x+3)}{(2x+3)(x+4)} = \frac{2x-3}{x+4}$$

D4 Simplify

$$\frac{6x^2-11x+4}{4x^2+8x-5} = \frac{(3x-4)(2x-1)}{(2x+5)(2x-1)} = \frac{3x-4}{2x+5}$$