

## Partial Fractions Essential Practice



**Skill:** Writing compound expressions as partial fractions

### Questions

Attempt these questions independently showing full and clear solutions. Check each answer as you go.

1. Write the following compound expressions as partial fractions:

a.  $\frac{2x+5}{(x-1)(x+6)}$

b.  $\frac{3t+5}{(t+1)(t+2)}$

c.  $\frac{6x}{x^2-9}$

d.  $\frac{4r-18}{4r^2+4r-3}$

e.  $\frac{6x^2+27x+25}{(x+2)^2(x+1)}$

f.  $\frac{97x+35}{(2x-3)(5x+2)^2}$

g.  $\frac{16}{t^2(t+4)}$

2. Write  $\frac{2x^2+18x+24}{(x+1)(x+3)}$  in the form  $A + \frac{B}{x+1} + \frac{C}{x+2}$ .

3. Write  $\frac{12x^3+2x^2-3x-5}{(2x+1)(x-1)}$  in the form  $Ax + B + \frac{C}{2x+1} + \frac{D}{x-1}$ .

4. Write  $\frac{3x^3-12x+9}{x^2-9}$  in the form  $Ax + B + \frac{C}{x+3} + \frac{D}{x-3}$ .

5. Write  $\frac{2x^3+8x^2-6x+20}{(x+2)^2}$  in the form  $Ax + B + \frac{C}{x+2} + \frac{D}{(x+2)^2}$