

Solutions to Partial Fraction Decomposition

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

$$4. \frac{4x^2-7x-12}{x(x+2)(x-3)} = \frac{2}{x} + \frac{9}{5} \frac{1}{x+2} + \frac{1}{5} \frac{1}{x-3}$$

$$5. \frac{x^2+3}{x^3+2x} = \frac{3}{2} \frac{1}{x} - \frac{1}{2} \frac{x}{x^2+2}$$

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

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

$$8. \frac{x^4+1}{x(x^2+1)^2} = \frac{1}{x} - \frac{2x}{(x^2+1)^2}$$