

Partial Fraction Decomposition

SETUP the Partial Fraction Decomposition of the following rational expressions.
Do NOT solve the resulting equations, that is do NOT find the values of A, B, etc.
Note: FACTOR the denominator (if possible) before decomposing the fraction.

$$1) \quad \frac{3x - 4}{x^2 - 4x - 12}$$

$$2) \quad \frac{5x^2 + 3x - 4}{(x + 1)(x - 5)(x^2 + x + 7)}$$

$$3) \quad \frac{x^2 - 8x - 1}{(x^2 - 1)(x^2 + x + 5)}$$

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

$$5) \quad \frac{x^3 - 2x^2 + 3x + 9}{(x^2 + 5x + 4)(x^2 + 7)(x^3 + 8)}$$

$$6) \quad \frac{x^3 - 2x^2 + 3x + 9}{x^2(x^2 + 7)(x^3 + 8)}$$