

## WORKSHEET – Partial Fractions with Irreducible Factors

1. The expression  $\frac{3x - 2}{(x^2 + 4)(x - 3)}$  can be written in the form  $\frac{Ax + B}{x^2 + 4} + \frac{C}{x - 3}$ . Find the values of  $A$ ,  $B$ , and  $C$ .
2. Express  $\frac{x^2 - 3}{(x^2 + 2)(x - 1)}$  in partial fractions.
3. Decompose the following to partial fractions:  $\frac{x^2 + 1}{x^3 + 8}$ .
4. Decompose the following into partial fractions:  $\frac{3}{(x^2 + 1)(x^2 + 4)}$ .
5. Resolve the following into partial fractions:  $\frac{4}{x^4 - 1}$ .
6. Resolve  $\frac{2x^3}{x^3 - x^2 + x - 1}$  into partial fractions.