

Worksheet 2015-10EB-00009(4) – Algebraic fractions

(1) Factorise completely:

(a) $\frac{2}{(k-1)^2} - \frac{4}{k^2-1} - \frac{5}{(1-k)^2} + \frac{3}{1+k}$

[illegible]

(b) $\frac{ab + 2a}{ab - 2a} \div \left(\frac{b^2 + 2b}{b + 3} \times \frac{b^2}{ab^2 - 3ab + 2a} \right)$

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

[illegible]

(2) If $x + \frac{1}{x} = 5$, calculate without using a calculator, the value of:

[Hint: Square the given and use factorisation!]

(a) $x^2 + \frac{1}{x^2}$

(b) $x^3 + \frac{1}{x^3}$
