

Higher – E&F–HW 3

1. Vector \mathbf{u} and \mathbf{v} are given by $\mathbf{u} = 2\mathbf{i} + \mathbf{k}$ and $\mathbf{v} = \mathbf{i} - 3\mathbf{j} + 4\mathbf{k}$.

What are the components of vector $2\mathbf{u} - \mathbf{v}$?

2. Functions f, g and h are defined on suitable domains by $f(x) = x^2 - x + 10$, $g(x) = 5 - x$ and $h(x) = \log_2 x$.

Find expressions for $h(f(x))$ and $h(g(x))$.