

Higher – E&F–HW 2

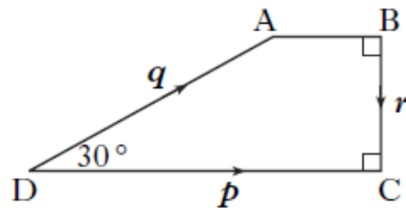
1. $f(x) = 2x^2 - 4$ and $g(x) = 1 - x$ define functions on the set of real numbers.

What is the value of $f(g(2))$?

2. Vectors \mathbf{p} , \mathbf{q} and \mathbf{r} are represented on the diagram shown where angle $ADC = 30^\circ$. It is also given that $|\mathbf{p}| = 4$ and $|\mathbf{q}| = 3$.

(a) Evaluate $\mathbf{p} \cdot (\mathbf{q} + \mathbf{r})$ and $\mathbf{r} \cdot (\mathbf{p} - \mathbf{q})$.

(b) Find $|\mathbf{q} + \mathbf{r}|$ and $|\mathbf{p} - \mathbf{q}|$.



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