

(b) The function $f : x \mapsto 3 \cos^2 x - 2 \sin^2 x$ is defined for $0 \leq x \leq \pi$.

(i) Express $f(x)$ in the form $a \cos^2 x + b$, where a and b are constants.

[1]

[illegible]

(ii) Find the range of f .

[2]

[illegible]