

10 The function f is defined by $f(x) = x^2 + \frac{k}{x} + 2$ for $x > 0$.

(a) Given that the curve with equation $y = f(x)$ has a stationary point when $x = 2$, find k . [3]

[illegible]

(b) Determine the nature of the stationary point.

[2]

[illegible]

(c) Given that this is the only stationary point of the curve, find the range of f .

[2]

[illegible]