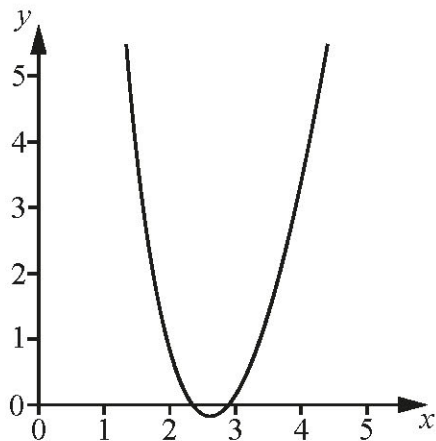


- 6 The diagram shows the curve with equation $y = f(x)$, where $f(x) = 13x - 34 \ln(x) - 1.5$ for $x > 0$.



- (a) A student attempts to locate a root of $f(x) = 0$ by using a spreadsheet to calculate the values of $f(x)$ for positive integer values of x .

Explain why the student's method may lead to the conclusion that $f(x) = 0$ has no roots. [1]

- (b) Determine the exact value of the x -coordinate of the turning point of the curve. [2]