6 A particle travels in a straight line. Its displacement, s metres, from the origin, at time t seconds, where $t > 2$, is given by $s = \ln(4t^2 - 5) - t$.

(a) Find expressions for the velocity, $v\,\text{ms}^{-1}$, and acceleration, $a\,\text{ms}^{-2}$, of the particle. [4]

(b) Find the time when the particle is at rest. [3]

(c) Find the acceleration at this time. [2]

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