4 A mass m is given an initial speed of 10 m s^{-1} up a rough inclined plane with an angle 0.57° above the horizontal. It travelled 150 m before it stopped.

(a) Describe the conversion of energy as the mass travelled up the inclined plane and stopped.

.....

.....

..... [1]

(b) **(i)** Write down the gain in gravitational potential energy of the mass in terms of m. Show your working.

gain in gravitational potential energy = ... [2]

(ii) Hence, calculate the proportion of energy lost due to friction.

proportion of energy = ... [2]