2. The speed of a small jet aircraft was measured every 2 seconds, starting from the time it turned onto a runway, until the time when it left the ground.

The results are given in the table below with the time in seconds and the speed in m s^{-1}.

Time (s)	0	2	4	6	8	10
Speed (m s^{-1})	2	7	9	13	22	26

Using all of this information,

(*a*) use the trapezium rule to estimate the length of runway used by the jet to take off.

(3)

Given that the jet accelerated smoothly in these 10 seconds,

(*b*) explain whether your answer to part (*a*) is an underestimate or an overestimate of the length of runway used by the jet to take off.

(1)

(Total for Question 2 is 4 marks)