

2. The speed of a small jet aircraft was measured every 5 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  $\text{m s}^{-1}$ .

Time (s)	0	5	10	15	20	25
Speed ( $\text{m s}^{-1}$ )	2	5	10	18	28	42

Using all of this information,

- (a) estimate the length of runway used by the jet to take off.

(3)

Given that the jet accelerated smoothly in these 25 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)