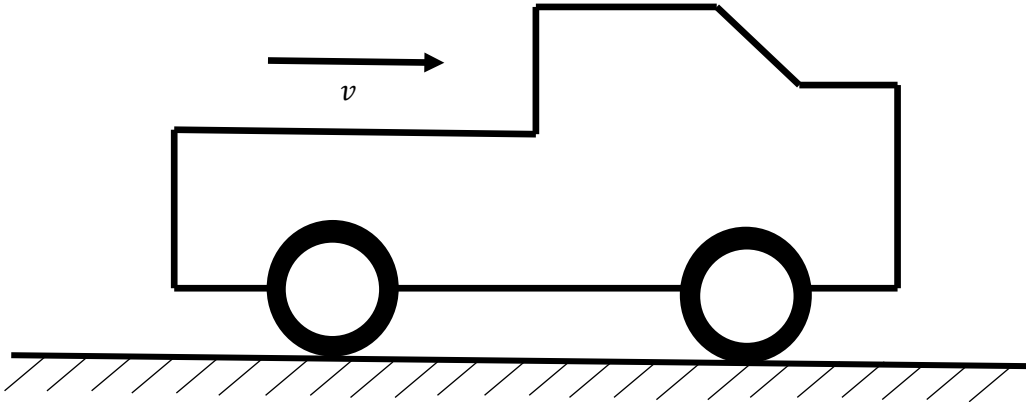


The velocity of a car follows the distribution given by

$$f(x) = \begin{cases} k & 40 \text{ mile/hr} \leq X \leq 50 \text{ mile/hr} \\ 0 & \text{otherwise} \end{cases}$$

(1) What is k ?

(2) If the distance between cities A and B is 180 mile, what is the probability that the travel time from city A to city B is less than 4 hours?



Solution

(1) $k = \frac{1}{10}$

(2) $\Pr(X > 45) = 0.5$