

Problems discussed in the videos:

Videos (7)-(9)

A jetliner touches down at 270 km/h. The plane then decelerates (i.e., undergoes acceleration directed opposite its velocity) at  $4.5 \text{ m/s}^2$ . What's the minimum runway length on which this aircraft can land?

Videos (11)-(14)

A speeding motorist zooms through a 50 km/h zone at 75 km/h (that's 21 m/s) without noticing a stationary police car. The police officer heads after the speeder, accelerating at  $2.5 \text{ m/s}^2$ . When the officer catches up to the speeder, how far down the road are they, and how fast is the police car going?