

# Applications

## Set 6-6b

A vehicle accelerating uniformly from rest at a rate of  $4\text{m/s}^2$  can be described by the function  $d(t) = 2t^2$ , where  $t$  is time, in seconds and  $d$  is distance, in meters.

- 1) *Graph this function.*
  
  
  
  
  
  
  
  
  
  
- 2) *What are the domain and range?*
  
  
  
  
  
  
  
  
  
  
- 3) *How long does it take the vehicle to travel 8m?*
  
  
  
  
  
  
  
  
  
  
- 4) *After 6 seconds, how far has the vehicle traveled?*
  
  
  
  
  
  
  
  
  
  
- 5) *After 12 seconds, how far has the vehicle traveled? Explain why this is not twice as far as the previous answer.*