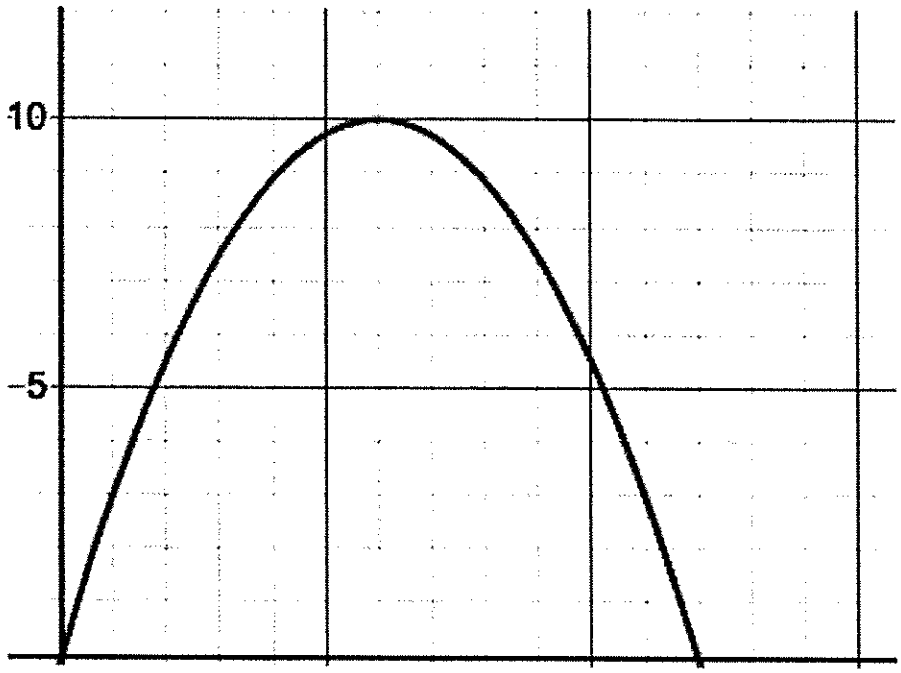
P11

Describing Motion Using Displacement vs. Time Graphs

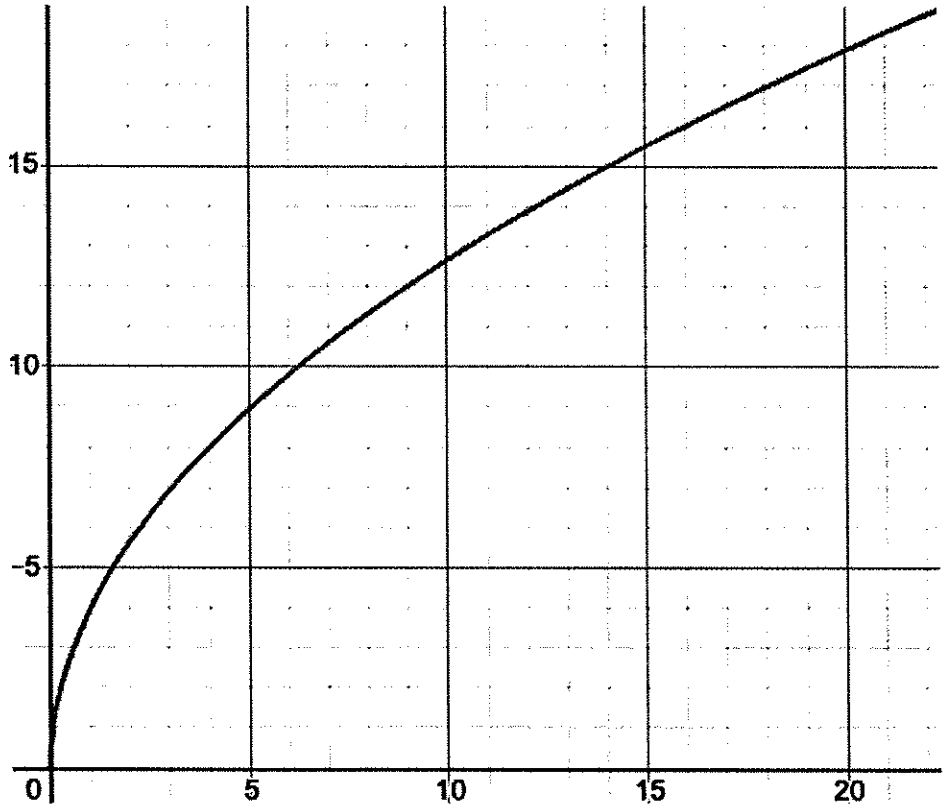
1. Time is measured in seconds and displacement is measured in meters. North is considered positive.



- Label the graph and its axes.
  Determine the following:

Time taken		**Average** velocity	
Time intervals (not instants) when the object is at rest		**Average** velocity during t=[0,6]s	
Initial displacement		**Average** velocity during t=[6,8]s	
Final displacement		**Instantaneous** velocity at t=6.0 s	
Change in displacement		**Instantaneous** velocity at t=3.0 s	
Distance travelled		**Instantaneous** velocity at t=9.0 s	

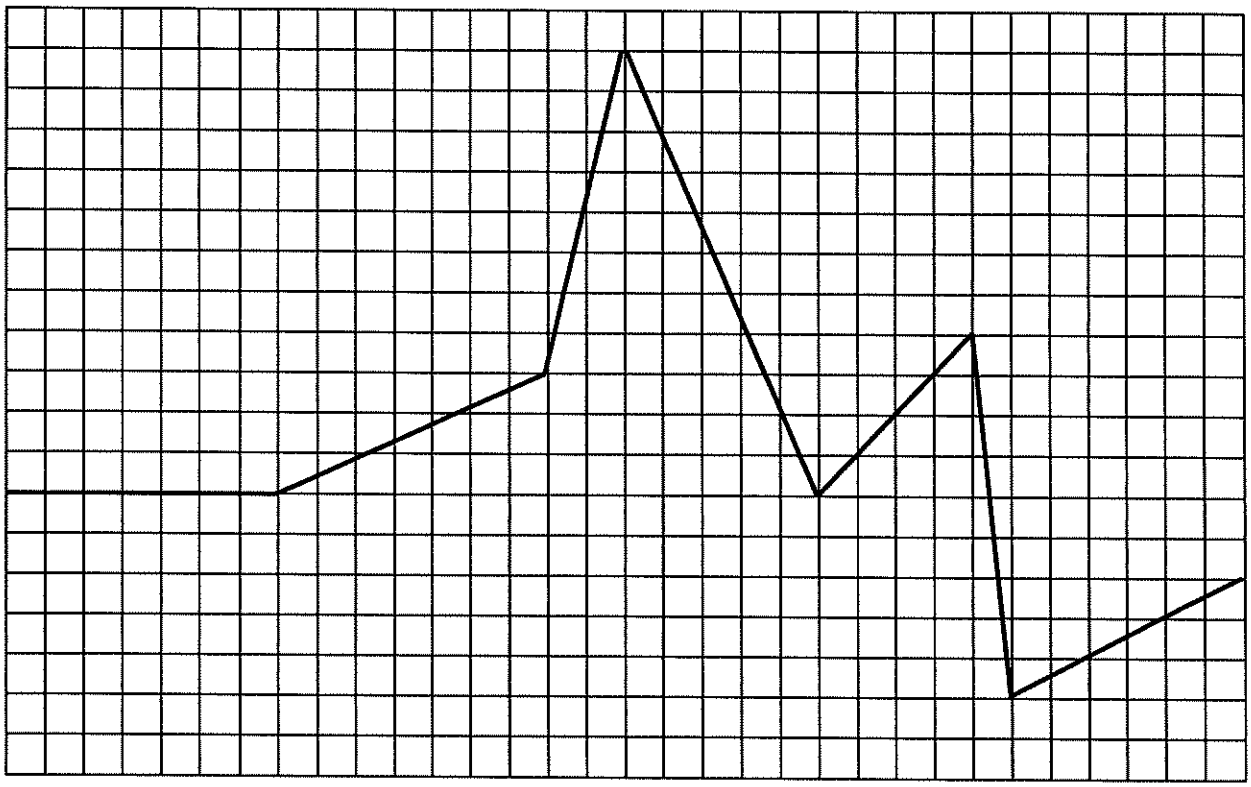
2. Time is measured in seconds and displacement is measured in meters. Down is considered positive.



- Label the graph and its axes.
  Determine the following:

Time taken		**Average** velocity	
Time intervals (not instants) when the object is at rest		**Average** velocity during t=[5,20]s	
Initial displacement		**Average** velocity during t=[6,8]s	
Final displacement		**Instantaneous** velocity at t=20.0 s	
Change in displacement		**Instantaneous** velocity at t=3.0 s	
Distance travelled		**Instantaneous** velocity at t=9.0 s	

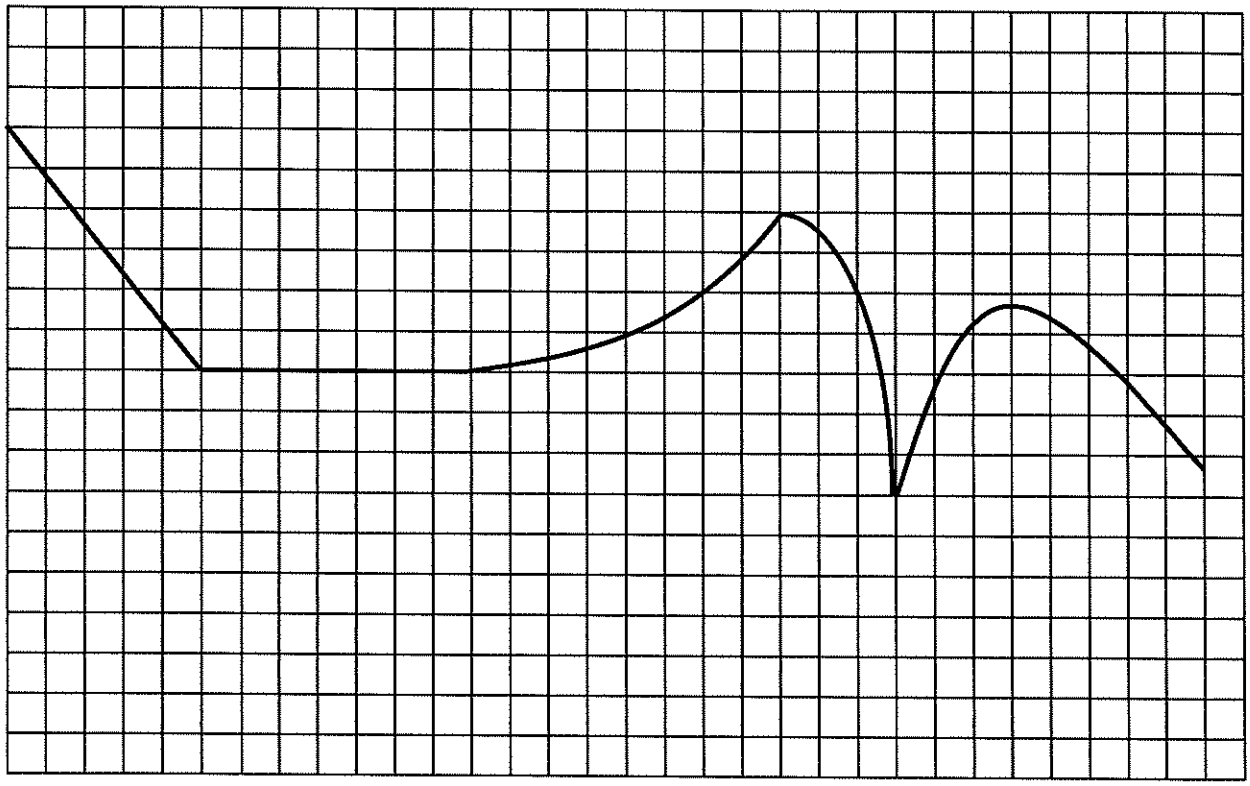
3. Time is measured in seconds and displacement is measured in meters. Right is considered positive.



- Label the graph and its axes.
  Determine the following:

Time taken		**Average** velocity	
Time intervals (not instants) when the object is at rest		**Average** velocity during t=[0,6]s	
Initial displacement		**Average** velocity during t=[14,23]s	
Final displacement		**Instantaneous** velocity at t=7.0 s	
Change in displacement		**Instantaneous** velocity at t=3.0 s	
Distance travelled		Time interval with greatest speed.	

4. Time is measured in seconds and displacement is measured in meters. West is considered positive.



- Label the graph and its axes.
  Determine the following:

Time taken		**Average** velocity	
Time intervals (not instants) when the object is at rest		**Average** velocity during t=[0,12]s	
Initial displacement		**Average** velocity during t=[20,23]s	
Final displacement		**Instantaneous** velocity at t=14.0 s	
Change in displacement		**Instantaneous** velocity at t=26.0 s	
Distance travelled		**Instantaneous** velocity at t=23.0 s	