

Use with textbook page 382.

Calculating change in velocity

1. Complete the following table by calculating the missing quantities. Positive (+) represents the forward motion. Use the formula $\Delta \vec{v} = \vec{v}_f - \vec{v}_i$. In the last column, describe the change in velocity (e.g. object is slowing down, object is speeding up, or object is in uniform motion).

\vec{v}_i	\vec{v}_f	$\Delta \vec{v}$	Description of $\Delta \vec{v}$
+ 14 m/s	+ 5 m/s		object is slowing down
+ 8 m/s		0 m/s	
	+ 25 m/s	+ 12 m/s	
+ 20 m/s	- 30 m/s		
- 38 m/s		- 10 m/s	
	- 16 m/s	0 m/s	
- 3 m/s	+ 22 m/s		

2. Use the following data table to calculate the change in velocity for each time interval. Suppose motion toward north is positive (+).

Time (s)	Velocity (m/s)
0	0
10	15
20	28
30	28
40	22
50	12

- a) 0 s – 10 s _____
- b) 10 s – 20 s _____
- c) 20 s – 30 s _____
- d) 30 s – 40 s _____
- e) 40 s – 50 s _____

Use with textbook page 385–386.

Positive, negative, and zero acceleration

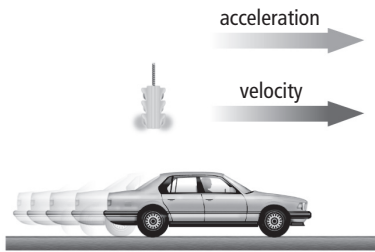
1. In each situation described below, identify whether the object or person has positive acceleration, negative acceleration, or zero acceleration.

- an airplane taking off _____
- a person standing still at a bus stop _____
- a bus braking as it approaches a red light

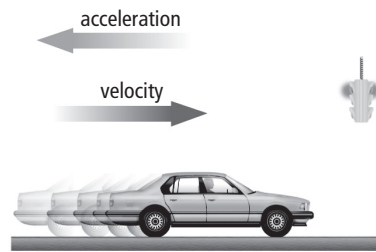
- a person sliding down a water slide with constant velocity

2. In each illustrated example shown below, identify whether the object or person has positive acceleration, negative acceleration or zero acceleration.

a) _____



b) _____



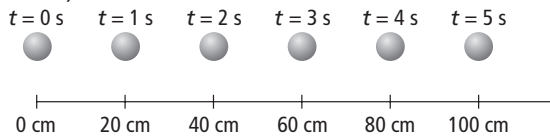
c) _____



d) _____



e) _____



f) _____

