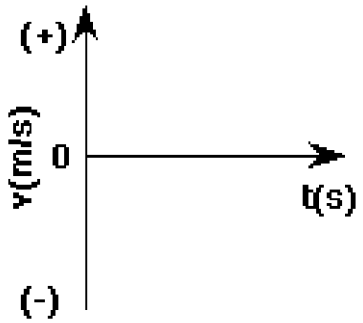
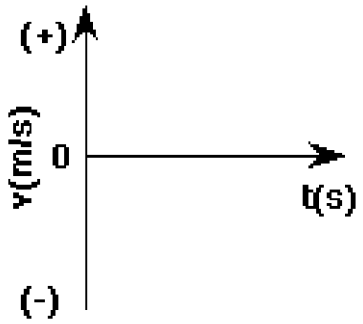
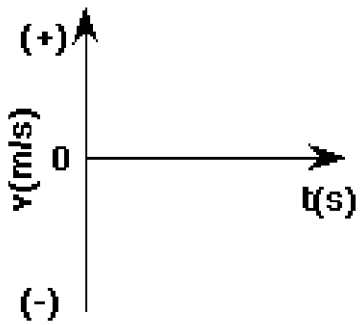
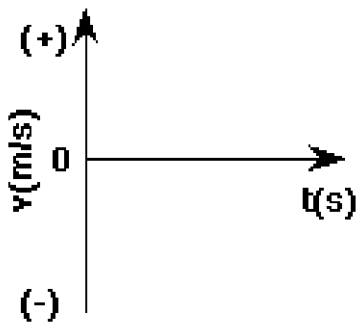
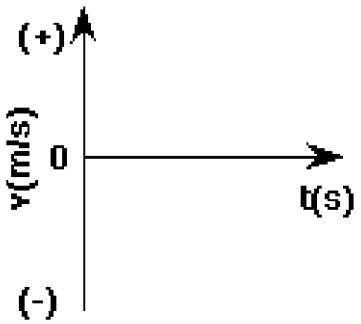
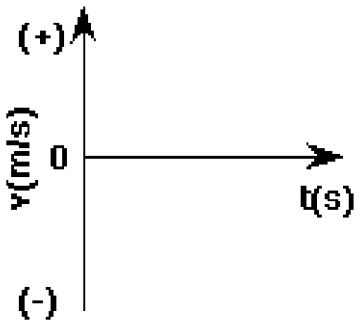
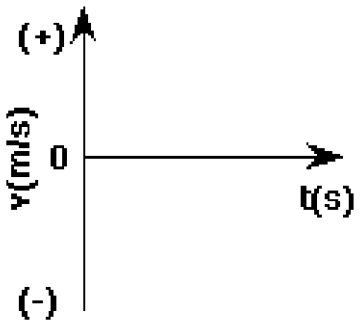
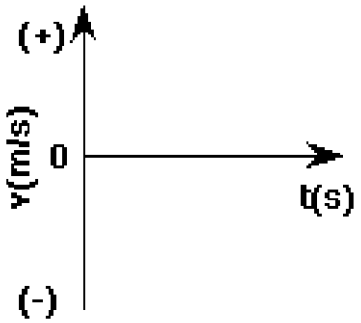
Constant Acceleration

The problem	**v** vs **t** graph	Solution
1. A tiger can accelerate from rest to a speed of 28 m/s in 5.9. s. a) What is the average acceleration of the tiger? b) What distance does it travel in this time?		
2. At t = 2 s a car has a speed of 30. m/s. After 6.0 s, its speed is 14 m/s. What is its average acceleration during this time interval?		
3. Assuming constant acceleration how far does a plane taking off from 30miles/hr travel in 30 seconds to reach a speed of 400 miles/hr?		
4. A bus moving at an average deceleration is slowing from 60m/s to 10m/s so that he can pick up a student who is 400 meters away. How long does it take the bus to stop?		

5. A car whose initial speed is 30. m/s slows uniformly to 10. m/s in 5.0 seconds. a) Determine the acceleration of the car. b) Determine the distance it travels.		
6. A dog runs down his driveway with an initial speed of 5.0 m/s for 8.0 s, then uniformly increases his speed to 10. m/s in 5.0 s. a) What was his acceleration during the 2nd part of the motion? b) How long is the driveway assuming he reached the end after 12.0 seconds?		
7. A physics student skis down a hill, accelerating at a constant 2.0 m/s^2. If it takes her 15 s to reach the bottom, what is the length of the slope?		
8. A mountain goat starts a rock slide and the rocks crash 100. m down the slope. The rocks final velocity avearge out to be 75m/s. How long did it take for the rocks to reach the bottom of the mountain?