

PHYS 215-Mechanics I-Question Bank 6

2019-2020

Full name:

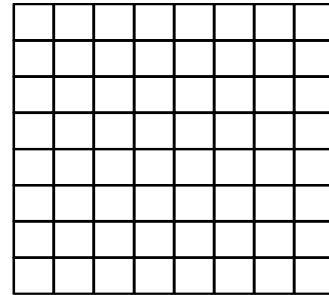
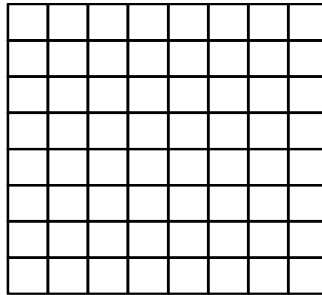
Plot the displacement – time and velocity - time graph for the data given in the tables below.

Question 1

displacement – time graph

velocity – time graph

Time (s)	Distance(m)
0	100
5	200
10	300
15	400
20	500
25	600

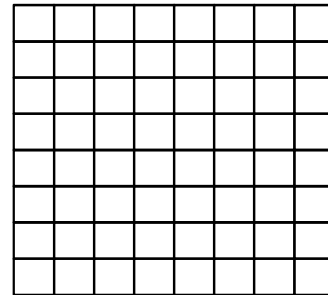
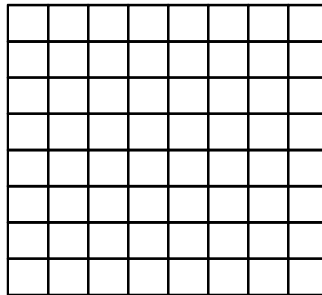


Question 2

displacement – time graph

velocity – time graph

Time (s)	Distance(m)
0	100
5	150
10	200
15	250
20	300
25	350

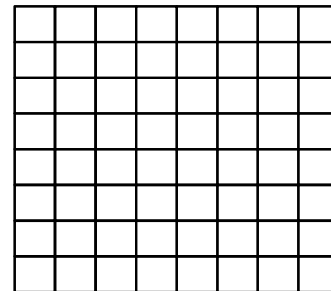
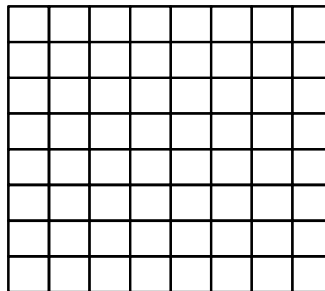


Question 3

displacement – time graph

velocity – time graph

Time (s)	Distance(m)
0	5
1	10
2	10
3	20
4	30

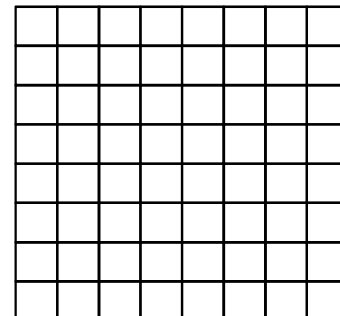
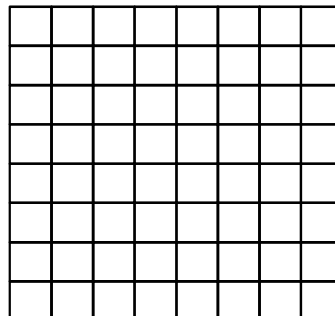


Question 4

displacement – time graph

velocity – time graph

Time (s)	Distance(m)
0	70
1	60
2	50
3	40
4	30
5	20

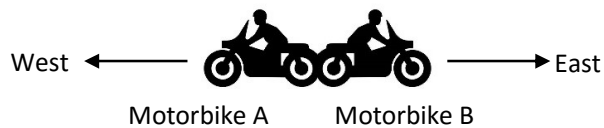


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Question 5

Two motorbikes move in opposite directions. Motorbike A has velocity of 12 m/s and and motorbike B 9 m/s. They pass from the same point at the same time. After 10 seconds,



- Calculate the distance taken by the motorbike A.
- What is the displacement of the motorbike A.
- Calculate the distance taken by the motorbike B.
- What is the displacement of the motorbike B.
- Calculate the distance between the motorbike A and B.
- Calculate the distance between the motorbikes after 25 seconds passing from the same point.

Question 6

An airplane flies at 400 km/h in the direction 60° north of west. The airplane is in fly for 2 hours.

- Calculate the displacement of the airplane.
- Calculate the displacement of the airplane in the northern direction.



Question 7

The graph shows the change in velocity of a particle with respect to time. Calculate the distance taken by the particle **a)** from 0 to 10 seconds, **b)** from 10 to 20 seconds, **c)** from 20 to 30 seconds, **d)** from 30 to 40 seconds **e)** for all motion.

