

Signature: Name: Marks: **DTST Worksheet****Q1.**

The graph below shows the motion of a cyclist

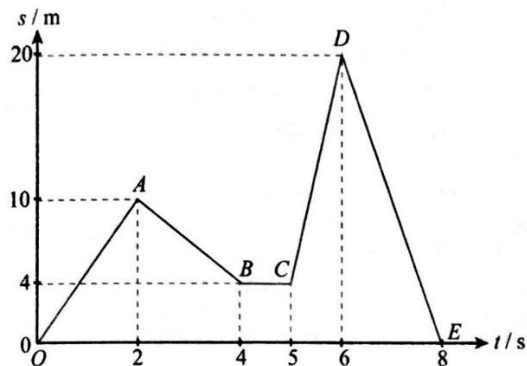


Figure 1.

Describe the motion of the cyclist represented by

- OA
- AB
- BC
- CD
- DE
- What is the velocity of the object at $t = 1s$?
- What is the velocity of the object at $t = 3s$?
- What is the velocity of the object at $t = 4.5s$?
- What is the velocity of the object at $t = 7s$?

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Q2.

The graph below represents the motion of a car for the first 15 seconds

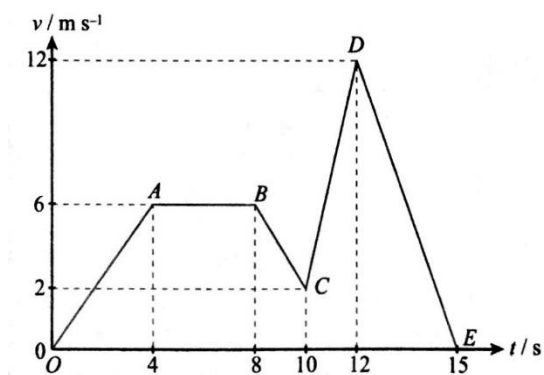


Figure 2.

Describe the motion of the cyclist represented by

- OA
- AB
- BC
- CD
- DE
- What is the velocity of the object at $t = 2s$?
- What is the velocity of the object at $t = 6s$?
- What is the velocity of the object at $t = 11s$?
- What is the acceleration of the object at $t = 2s$?
- What is the acceleration of the object at $t = 6s$?
- What is the acceleration of the object at $t = 11s$?
- What is the displacement travelled by the car from 0 to 8s?

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Q4.

The figure shows a DT graph for a boy walking in a straight line.

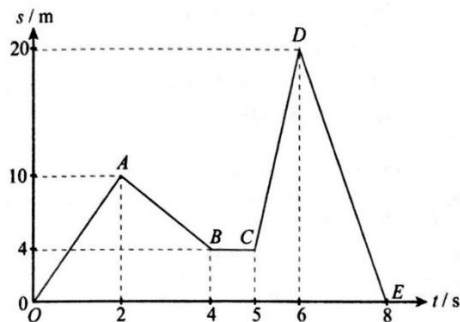


Figure 4.

- What is meant by displacement?
- Describe the movement of the boy
 - From point O to A
 - From point C to D
- What is the physical quantity represented by the gradient of the graph shown?
 - Find the velocity of the boy from C to D.

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Q5.

The figure shows a chart of ticker tape obtained from a trolley moving on a plane. Each strip of ticker tape contains 10 ticks. The frequency of the ticker timer is 50 Hz.

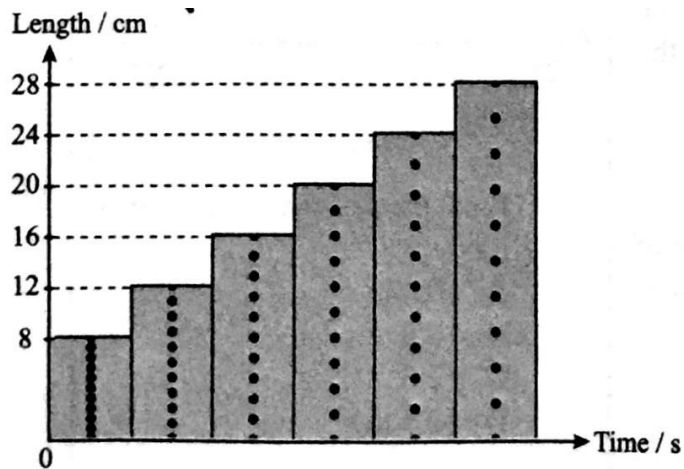


Figure 5

- Describe the movement of the trolley based on the ticker tape chart
- What is the time taken for the whole 6 strips of 10 ticks on the ticker tape?
- What is the initial velocity of the trolley based on the ticker tape?
- What is the final velocity of the trolley based on the ticker tape?
- What is the average velocity for the whole motion of the trolley?
- Calculate the acceleration of the trolley.

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Q6.

An object accelerates from stationary with the acceleration of 4 ms^{-2} . What is the velocity of the object after 7s?

Q7.

A car is accelerated at 4 ms^{-2} from an initial velocity of 5 ms^{-1} for 10 seconds. What is the distance traveled by the car?

Q8.

A car is moving with a velocity 5 ms^{-1} reaches a velocity of 25 ms^{-1} in 5s. What is the acceleration of the car?

Signature: Name: Marks: **Q9.**

A car accelerates from 4 ms^{-1} reaches a velocity of 28 ms^{-1} after traveling for 64m. What is the acceleration of the car?

Q10.

A cyclist riding at a speed of 40 ms^{-1} braked with uniform deceleration and stopped in 40m. How long did he take to stop?

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Q11.

A car begins to move from rest. The velocity of the car increases at a rate of 4 ms^{-2} . Find the distance traveled by the car after 12 second.

Q12.

A car starts from rest and accelerates at a constant acceleration of 3 ms^{-2} for 10 seconds. The car then travels at a constant velocity for 5 seconds. The brakes are then applied and the car stops in 5 seconds. What is the total distance travelled by the car?