Signature: Name: Marks:

DTST Worksheet

Q1.

The graph below shows the motion of a cyclist

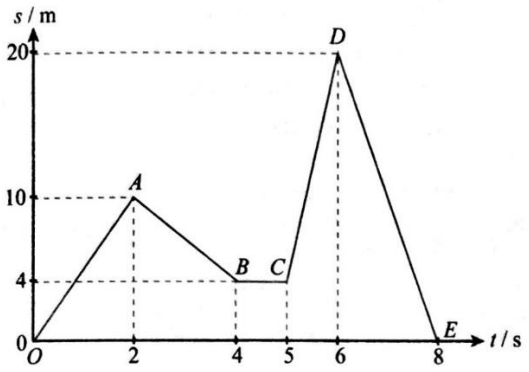

Figure 1.

Describe the motion of the cyclist represented by

a) OA
b) AB
c) BC
d) CD
e) DE

Signature: Name: Marks:

Q2.

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

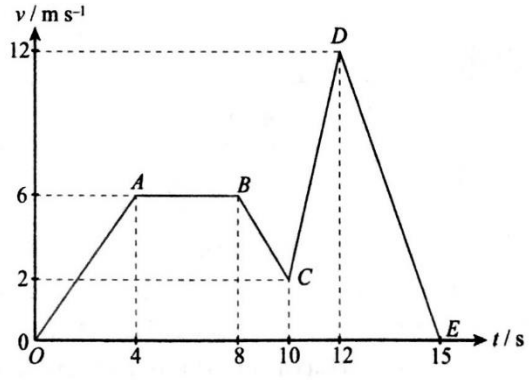

Figure 2.

Describe the motion of the cyclist represented by

a) OA
b) AB
c) BC
d) CD
e) DE

Q3.

The graph below shows the motion of an object. What is the velocity of the object at t = 4s?

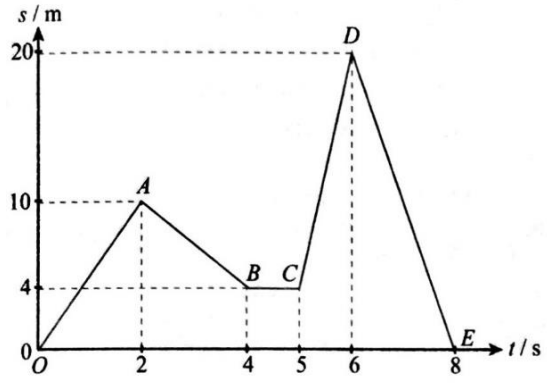

Figure 3.

Q4.

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

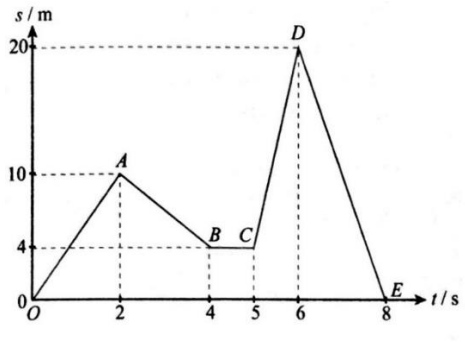

Figure 4.

a) What is meant by displacement?
b) Describe the movement of the boy
   i) From point O to A
   ii) From point C to D
c) i) What is the physical quantity represented by the gradient of the graph shown?

   ii) Find the displacement of the boy at the 25^{th} second.

   iii) Find the velocity of the boy from C to D.

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.

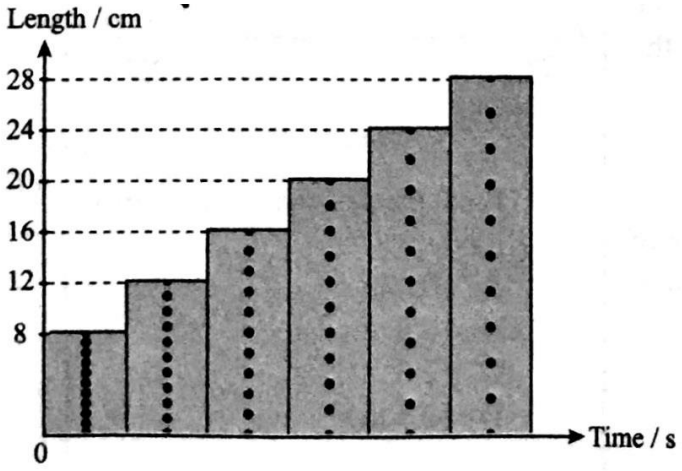

Figure 5

a) Describe the movement of the trolley based on the ticker tape chart

b) What is the time taken for the whole 6 strips of 10 ticks on the ticker tape?

c) What is the initial velocity of the trolley based on the ticker tape?

d) What is the final velocity of the trolley based on the ticker tape?

e) What is the average velocity for the whole motion of the trolley?

f) Calculate the acceleration of the trolley.

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?

Q9.

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

Q10.

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

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.

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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?