Rosary School – Marj Elhamam

Physics Quiz

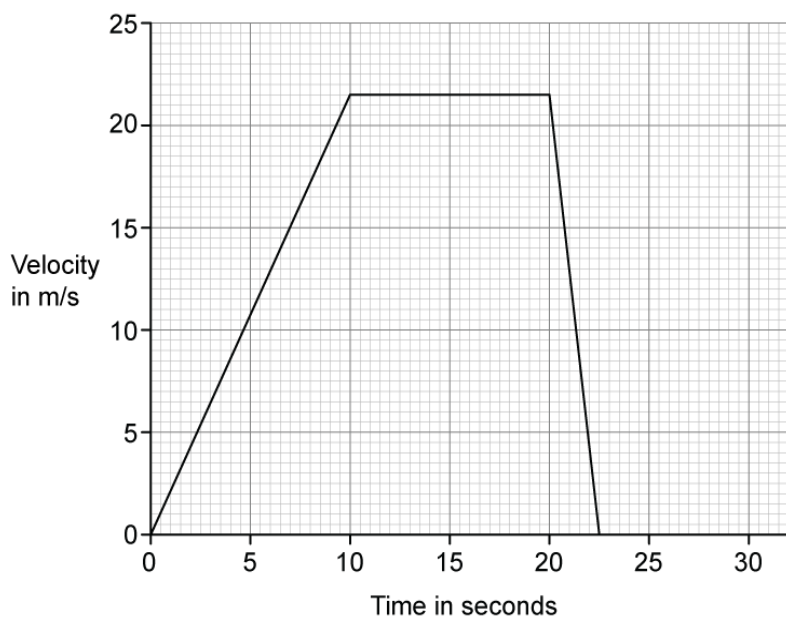| No. of Pages: (2)	No. of Questions: (2)	Mark: (_____/ 13)
Name: _____		Date: / 9 / 2025
Grade: 9 ( )		Duration: 15 min.

Form 4

Question 1:   (/   10)

The velocity-time graph shows how the velocity of a motorcycle changes with time.

a. With reference to the graph, state and explain which part of the graph shows that the motorcycle has constant speed.   [4]

gradient = acceleration
_____

the part between 10 and 20 seconds is constant soeed
_____

because itis flat horizontal
_____

zero gradient
_____

b. State the formula linking acceleration, change in velocity and time taken. [1]

acceleration = change in velocity / time

a = v-u / t

c. Calculate the acceleration of the motorcycle between 20 and 22.5 seconds. [2]

$$gradient = acceleration = \frac{0 - 21.5}{2.5}$$

acceleration = ... — 8.6 .... m/s²

d. Calculate the distance travelled between 0 and 10 seconds. [3]

$$distance = area\ under\ graph$$
$$= \frac{1}{2} \times 10 \times 21.5$$
$$= 107.5$$

Distance = ... 108 .... m

Question 2:   V   a = -2   (/ 3)

A car reaches a speed of 15m/s after a deceleration of 2m/s² over a distance of 44m. S
Calculate the initial speed. u

$$u = \sqrt{v^2 - 2as}$$

$$= \sqrt{15^2 - (2 \times -2 \times 44)}$$

$$= \sqrt{225 + 176} \quad = \sqrt{401}$$

Teacher: Zeina Abu Manneh

$$= 20\ m$$

2