



# Preview Quiz - Quiz 01 - Motion Along a Line

## Description

You will be given 3 attempts of each quiz over a 3-week period. Each attempt will have a time limit of 25 minutes. Each quiz will have questions adding up to 20 marks. The questions have different mark allocations depending on difficulty.

The highest mark from the 3 attempts will count as the score for that quiz. Each quiz is worth 4% of the unit assessment.

The quiz will close after three weeks.

Unless stated otherwise, for each question assume ideal situations (i.e. no air resistance, frictionless surfaces and isolated systems).

## Quiz Details

Current Time

9:47 AM [Update](#)

Current User

Kieran Lim

**Quiz Period**

Available on 13 July, 2020 9:00 AM until 03 August, 2020 8:00 PM

**Time Allowed**

0:25:00

**Attempts**

Allowed - 3, Completed - 0

## Instructions

**Note:**

Before you submit the quiz, you will have the opportunity to return to questions that you may have missed or have not yet answered. Once the allocated time period that was set for this quiz expires, you are required to submit your quiz responses.

**Note:** Any responses entered after the time limit expires will not be submitted.

Click "Start Quiz" to begin Attempt 1.

**The timer will not begin until after the set up process is finished.**

Start Quiz!

## Question 1 (3 points)

An aeroplane starting from rest needs to reach a speed of 188 km/h to take off. On a 2.5 km runway, what is the minimum steady acceleration necessary for the plane to take flight?

A)  $0.55 \text{ m/s}^2$  .

B)  $20.8 \text{ m/s}^2$  .

C)  $1.2 \text{ m/s}^2$  .

D)  $0.1 \text{ m/s}^2$  .

E)  $37.6 \text{ m/s}^2$  .

## Question 2 (3 points)

A motorbike initially traveling at 55 km/h accelerates at a constant rate of  $1.5 \text{ m/s}^2$ . How much time is required for the motorbike to reach a speed of 110 km/h?

A) 10.19 s

B) 73.3 s

C) 55.0 s

D) 36.7 s

### Question 3 (3 points)

An aeroplane starting from rest needs to reach a speed of 285 km/h to take off. On a 2.9 km runway, what is the minimum steady acceleration necessary for the plane to take flight?

A)  $27.3 \text{ m/s}^2$  .

B)  $2.1 \text{ m/s}^2$  .

C)  $0.1 \text{ m/s}^2$  .

D)  $1.08 \text{ m/s}^2$  .

E)  $49.1 \text{ m/s}^2$  .

#### Question 4 (1 point)

A bird flies 30 m from its nest toward the EAST to point A. She then flies from point A 20 m more toward the EAST to point B. The bird's total displacement from the origin is

- A) 10 m WEST.
- B) 30 m WEST.
- C) 20 m WEST.
- D) 50 m EAST.
- E) 10 m EAST.

### Question 5 (1 point)

A deer travels 980 m from an origin toward the WEST to point A. It then travels from point A 670 m toward the EAST to point B. It then travels from point B 200 m toward the WEST to point C. The deer's total displacement from the origin to point C is

- A) 0 m.
- B) 200 m toward the WEST.
- C) 510 m toward the WEST.
- D) 1850 m toward the WEST.
- E) 670 m toward the EAST.

### Question 6 (1 point)

A deer travels 500 m from an origin toward the EAST to point A. It then travels from point A 800 m toward the WEST to point B. It then travels from point B 40 m toward the WEST to point C. The deer's total displacement from the origin to point C is

- A) 40 m toward the WEST.
- B) 0 m.
- C) 840 m toward the WEST.
- D) 340 m toward the WEST.
- E) 1340 m toward the WEST.

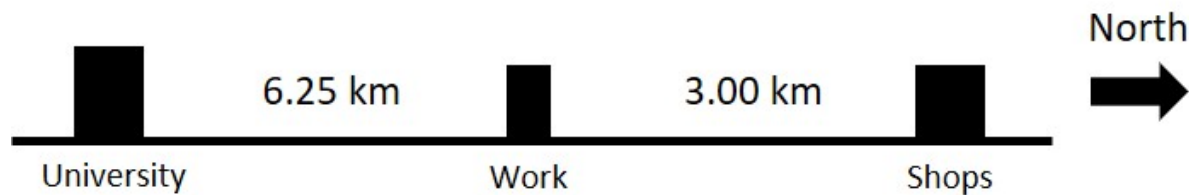


### Question 7 (2 points)

If, in the figure, you start from shops, travel to the university, and then to work in a total of 5.00 hours, what is your average velocity (in km/h)?

Hint: Only enter the numerical part of the answer to two decimal places. Use positive (+) for north and negative (–) for south.

Hint: Answer to two decimal places.



Your Answer:

## Question 8 (2 points)

After feeding, an arctic tern is flying back to its nest at 17 km/h for 119 kilometres. It then starts to snow so the bird slows to 11 km/h. The bird arrives back at the nest after flying for a total of 11 hours and 40 minutes. How far is the nest from the feeding ground?

A) 200 km

B) 140 km

C) 119 km

D) 190 km

E) 170 km

### Question 9 (2 points)

In slow juggling, the aim is to throw the balls as high as possible to have the minimum possible hand-ball contacts in one minute. A juggler throws a ball vertically upward and it returned to its starting position in 5.2 s. What is the magnitude of the initial vertical velocity (in m/s) of the ball? Hint: Enter only the numerical value of your answer to zero decimal places.

Your Answer:

### Question 10 (2 points)

If a truck accelerates at a steady  $4.4 \text{ m/s}^2$ , how long will it take to reach a speed of  $55 \text{ km/h}$ , starting from rest?

- A)  $0.29 \text{ s}$
- B)  $12.5 \text{ s}$
- C)  $3.5 \text{ h}$
- D)  $0.08 \text{ s}$
- E)  $3.5 \text{ s}$

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Submit Quiz *0 of 10 questions saved*