education

Department:
Education
PROVINCE OF KWAZULU-NATAL

FET

Just-in-Time Training Workshop

2019: No. 1

Pre - workshop activity

Physical Sciences

Endorsed by:

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what I do matters

Physical Sciences Pre-Workshop Assessment **15 minutes**

This assessment consists of 5 multiple-choice questions that relate to the topic of Motion. For each question you need to select the correct option by writing down the letter that corresponds with your choice of the correct answer in the space provided.

For some of the questions you will be asked to explain your answer or identify a common error or misconception that relates to an incorrect option.

1. Which ONE of the following pairs contains one vector and one scalar quantity?

   A. Speed and time

   B. Velocity and acceleration

   C. Displacement and time

   D. Displacement and acceleration

Correct answer:	
Common incorrect answer	

What common error relates to the incorrect answer?

2. A boy walks 6 km East then turns around and runs 8 km in the opposite direction. What is his resultant displacement?

   A 14 km

   B 2 km

   C - 2 km

   D 2 km West (2)

Answer:	

Explain your thinking step:

3. An object travels at constant speed, s for t seconds. The speed of the object is doubled. How far will the object travel in 2t seconds compared to the distance it travelled at speed s?

A double the original distance

B ½ × original distance.

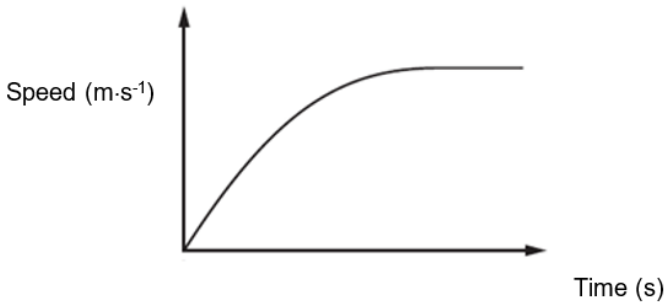
C 4 × its original distance.

D the same as its original distance

Answer:

Explain your thinking step:

4. The graph below shows the variation with time of the speed of a raindrop falling vertically through air.



Which statement concerning the raindrop is correct?

A The magnitude of the acceleration increases as its speed increases.

B The magnitude of the acceleration increases until it reaches a steady speed.

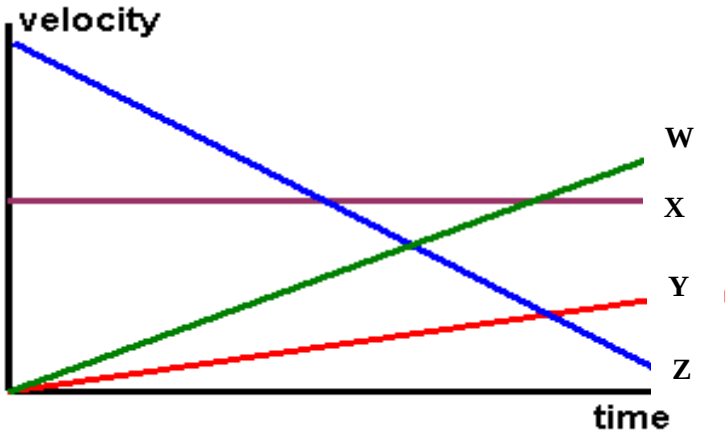
C The magnitude of the acceleration decreases until it reaches a steady speed.

D Air resistance is negligible while the raindrop falls.

Answer:

Explain your thinking step:

5. Study the velocity – time graph showing the motion of four different objects below.



A learner makes the following statements about the motion represented by the lines W, X, Y and Z

W	The instantaneous velocity is equal to the average velocity for all times in the time interval shown
X	This object travels an equal distance in every small time interval
Y	This object experiences a constant non-zero net force
Z	This object is moving in the opposite direction to the other objects.

Two of the learner's statements are correct and two are false.

Write down the correct letters in the below:

True Statements:	
False Statements:	

Identify a misconception the learner has based on one of the false statements.