Laws of Motion

Name _____ Class _____ Date _____

1 A force, F, is applied to the handle of a lawnmower inclined at angle q to the ground. The **magnitude** of the **horizontal component** of **force F** depends on

Circle the answer letter.

  a. the magnitude of force F, only.

  b. the measure of angle q, only.

  c. both the magnitude of force F and the measure of angle q.

2 The graph below represents the motion of an object. According to the graph, as **time increases**, the **velocity** of the object _____.

3

4 Which terms **both** represent **scalar quantities**?

  a. displacement and velocity

  b. distance and speed

  c. displacement and speed

5 A **70 kg** astronaut has a weight of **560 newtons** on the surface of planet Alpha. What is the **acceleration** due to **gravity** on planet Alpha?

  _____ m/s²

6 A roller coaster, traveling with an initial speed of **15 meters per second**, **decelerates** uniformly at **–7.0 meters per second²** to a full stop. Approximately **how far** does the roller coaster travel during its **deceleration**?

  2 m   16 m   32 m

7 A ball dropped from rest falls freely until it hits the ground with a speed of **20 meters per second**. The **time** during which the ball is **in free fall** is approximately _____.

... er ... inutes, ... the third ... km in 6.0 ... f the runner ... _____.

  ...6 km/min

... elocity ... ove ... ical

  8.6 m/s   12 m/s

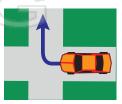 9.8 m/s   15 m/s

  35°

10 If the **direction** of a moving car **changes** and its **speed remains constant**, which **quantity** must remain the same?

  a. velocity

  b. momentum

  c. kinetic energy

PREVIEW

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H.S. Phys

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6 A roller coaster, traveling with an initial speed of **15 meters per second, decelerates** uniformly at –7.0 meters per second² to a full stop. Approximately **how far** does the roller coaster travel during its **deceleration**?

2 m   **(16 m)**   32 m

7 A ball dropped from rest falls freely until it hits the ground with a speed of 20 meters per second. The **time** during which the ball is **in free fall** is approximately _____.

_____ minutes, _____ the third _____ km in 6.0 _____ of the runner _____.

_____ 16 km/min

_____ velocity _____ ove _____ ical

(8.6 m/s)   12 m/s

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