

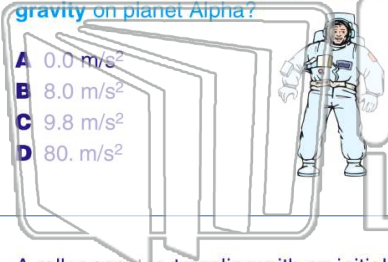


Name _____ Class _____ Date _____

1

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

- A 0.0 m/s²
- B 8.0 m/s²
- C 9.8 m/s²
- D 80. m/s²



2

The speed of a car is increased uniformly from **20 meters per second** to **30 meters per second** in **4.0 seconds**. **The magnitude of the car's average acceleration in this 4.0-second interval is**

- A 0.40 m/s²
- B 2.5 m/s²
- C 10 m/s²
- D 18 m/s²



3

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**

4

Which term represents a **scalar quantity**?

- A distance



5



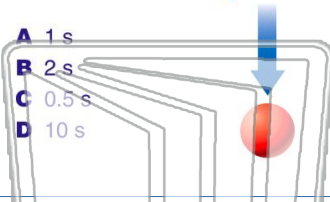
PREVIEW

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7

per second. **The time during which the ball is in free fall is approximately**

- A 1 s
- B 2 s
- C 0.5 s
- D 10 s



10

kilometer in **6.2 minutes**, the third kilometer in **6.3 minutes**, and the final kilometer in **6.0 minutes**. **The average speed of the runner for the race is approximately**

- A 0.16 km/min
- B 0.38 km/min
- C 12 km/min
- D 24 km/min



9

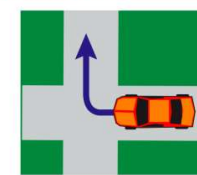
A golf ball is hit with an initial velocity of **15 meters per second** at an angle of **35 degrees** above the horizontal. **What is the vertical component of the golf ball's initial velocity?**

- A 8.6 m/s
- B 9.8 m/s
- C 12 m/s
- D 15 m/s



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

- A velocity
- B momentum
- C displacement
- D kinetic energy





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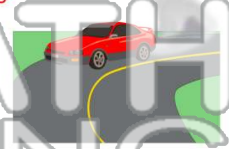
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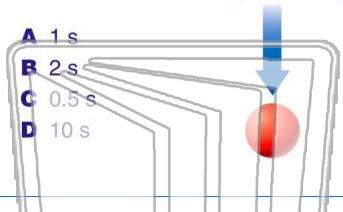
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