CALIFORNIA PHYSICS · UNIT 1 · 10 QUESTIONS

# Kinematics and Dynamics — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

**1** **The coefficient of static friction is 0.6 and the normal force is 100 N. The maximum static friction is**

- **A** 60 N
- **B** 40 N
- **C** 160 N
- **D** 166 N

Understand It with Pulse | Flag a mistake

2 **A 4 kg object is pulled by a 28 N force against 8 N of friction. The net force is**



A 4 N

B 20 N

C 7 N

D 36 N

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**3** **An object moves in a circle at speed 10 m/s with radius 25 m. Its centripetal acceleration is**

- **A** 250 m/s²
- **B** 35 m/s²
- **C** 2.5 m/s²
- **D** 4 m/s²

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**4** **On a velocity time graph, the area under the line gives the**



A acceleration

B mass

C displacement

D force

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**5** **An object in free fall near Earth has an acceleration of about**

- **A** 0 m/s²
- **B** 10 m/s²
- **C** 100 m/s²
- **D** 1 m/s²

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**6** **A ball is thrown upward at 20 m/s. Use g = 10 m/s². The time to reach the top, in seconds, is ____**

ANSWER _____

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**7** **A car travels 300 m in 20 s. Its average speed, in meters per second, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

8 **A net force of 100 N acts on a 25 kg object. Its acceleration, in meters per second squared, is ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

9 **An object of weight 200 N on a 30 degree ramp has a down ramp weight component, in newtons, of ____**

ANSWER _____

Understand It with Pulse | Flag a mistake

10 **The horizontal component of projectile motion has what acceleration, ignoring air resistance?**

A 10 m/s² downward

B 10 m/s² upward

C 5 m/s² forward

D zero

Understand It with Pulse | Flag a mistake

# ANSWER KEY

1. A
2. B
3. D
4. C
5. B
6. 2
7. 15
8. 4
9. 100
10. D

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