ALBERTA PHYSICS 20 · UNIT B · 5 QUESTIONS

Dynamics — Practice Test

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1 **Passengers in a bus travelling at a constant velocity lurch forward when the bus suddenly brakes. The passengers lurch forward because**

- **A** a force from the back of the bus pushes them forward
- **B** they tend to keep moving forward because of their inertia
- **C** the force of gravity pulls them toward the front of the bus
- **D** the braking force acts on them in the forward direction

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2 **Planet Earth and the Moon together in black space. A 10 kg object is taken from Earth to the Moon, where g = 1.63 m/s². Compared with its values on Earth, the object on the Moon has**



A less mass and less weight

B the same mass and more weight

C the same mass and less weight

D more mass and the same weight

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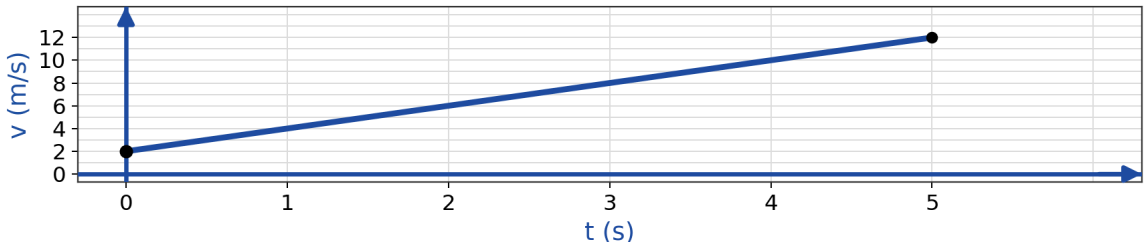
3 **The velocity-time graph shows the motion of a 4.0 kg object on a frictionless surface. The magnitude of the net force acting on the object, in newtons, is _____**



ANSWER _____

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4 **A 20 kg crate rests on a horizontal floor. The coefficient of static friction between the crate and the floor is 0.50. A horizontal force of 40 N is applied to the crate, but the crate does not move. The magnitude of the force of static friction acting on the crate is**

A 98 N

B 0 N

C 196 N

D 40 N

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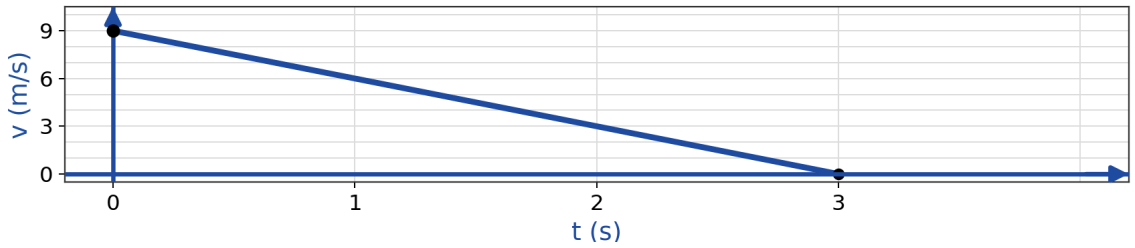
5 **The velocity-time graph shows a box sliding across a horizontal floor and slowing under kinetic friction alone. Use g = 9.81 m/s². The coefficient of kinetic friction between the box and the floor is**



A 0.31

B 0.92

C 0.29

D 0.34

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ANSWER KEY

1. B
2. C
3. 8
4. D
5. A

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