ALBERTA SCIENCE 20 · UNIT B · 10 QUESTIONS

Changes in Motion — 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 **On a velocity-time graph, an object moves at a constant velocity of 8.0 m/s for 6.0 s. The displacement of the object during this time, found from the area under the graph, is**

- **A** 1.3 m
- **B** 48 m
- **C** 14 m
- **D** 96 m

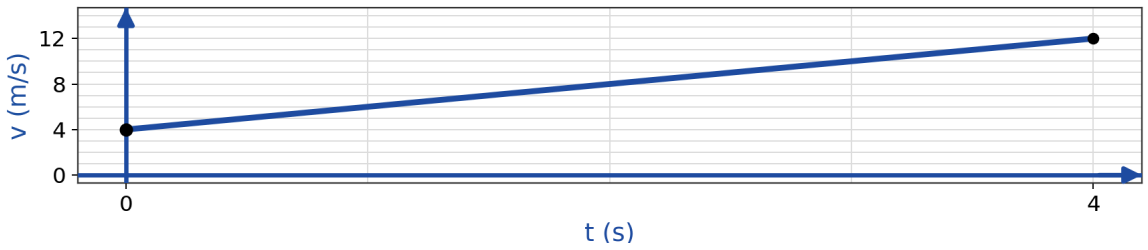
Understand It with Pulse | Flag a mistake

2 **An astronaut travels to the Moon, where gravity is weaker than on Earth. Compared with Earth, the astronaut's**

- **A** mass is the same and weight is less
- **B** mass and weight are both less
- **C** mass and weight are both the same
- **D** mass is less and weight is the same

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3 **The velocity-time graph shows a bicycle speeding up uniformly. The displacement during the first 4 s, in metres, is _____.**



ANSWER _____

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4 **A hockey player applies a force of 200 N to a puck for 0.50 s. The impulse delivered to the puck is**

- **A** 400 N · s
- **B** 40 N · s
- **C** 100 N · s
- **D** 0.0025 N · s

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5 **If the speed of a moving car is doubled, its kinetic energy will**

- **A** stay the same
- **B** double
- **C** triple
- **D** quadruple

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6 **The momentum, in kg · m/s, of an 80 kg sprinter running at 9.0 m/s is _____ Record your answer to the nearest whole number.**

ANSWER

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7 **A crane lifts a 15 kg load through a vertical height of 2.0 m. Use g = 9.81 m/s². The work done by the crane against gravity is approximately**

A 30 J

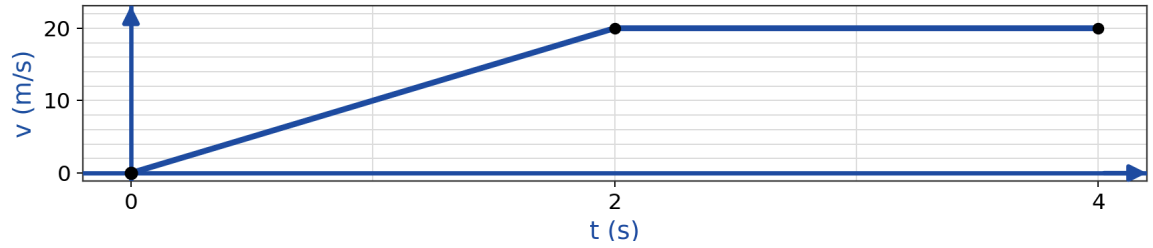
B 147 J

C 2940 J

D 294 J

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8 **The velocity-time graph shows a rocket after launch. The velocity after 3 s is**



- **A** 0 m/s
- **B** 10 m/s
- **C** 20 m/s
- **D** 40 m/s

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9 **The kinetic energy, in joules, of a 0.40 kg ball moving at 15 m/s is _____ Record your answer to the nearest whole number.**

ANSWER _____

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10 **Which of the following changes would increase the stopping distance of a car?**

A Brand-new tires with deep tread

B Dry pavement

C Worn tires that reduce the friction between the tires and the road

D A shorter reaction time by the driver

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ANSWER KEY

1. B
2. A
3. 32
4. C
5. D
6. 720
7. D
8. C
9. 45
10. C

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