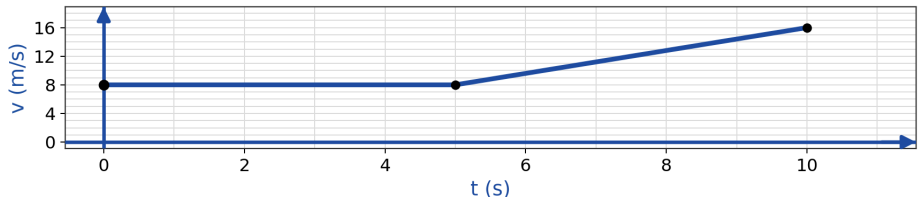
NUNAVUT PHYSICS 20 · UNIT A · 10 QUESTIONS

Kinematics — 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 velocity-time graph shows an objects motion. The total displacement of the object is**



- **A** 80 m
- **B** 120 m
- **C** 100 m
- **D** 200 m

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2 **An object is dropped from rest from the top of a cliff. Use g = 9.81 m/s² and ignore air resistance. The distance the object falls in 2.0 s is**

- A 20 m
- B 9.8 m
- C 39 m
- D 4.9 m

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3 **A car brakes uniformly at 4.0 m/s² over a distance of 72 m and slows to a final speed of 6.0 m/s. Its initial speed, in metres per second, to the nearest tenth, is**

ANSWER _____

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4 **A ball is kicked at 25 m/s at an angle of 60° above the horizontal. The horizontal component of the balls initial velocity is approximately**

- A 25 m/s
- B 43 m/s
- C 22 m/s
- D 13 m/s

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5 **A train travels at 22 m/s relative to the ground. A passenger on the train walks toward the front of the train at 1.5 m/s relative to the train. The speed of the passenger relative to the ground is**

- A 20.5 m/s
- B 23.5 m/s
- C 22 m/s
- D 33 m/s

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6 **A ball is thrown horizontally at 15 m/s from the top of a cliff 45 m above the ground. Use g = 9.81 m/s². The time it takes the ball to reach the ground is approximately**

- A 2.1 s
- B 4.5 s
- C 3.0 s
- D 9.2 s

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7 **A car starts from rest and accelerates uniformly at 4.0 m/s². The time it takes the car to travel 200 m, in seconds, is**

ANSWER _____

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8 **A ball is thrown straight up into the air, and is at the highest point of its path. At this point, the balls velocity and acceleration are**

A Velocity is zero, acceleration is 9.81 m/s² downward

B Velocity is zero, acceleration is zero

C Velocity is at its maximum, acceleration is zero

D Velocity is 9.81 m/s downward, acceleration is zero

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9 **A projectile is launched at a fixed speed and lands at the same height from which it was launched. The launch angle that produces the maximum horizontal range is**

A 30°

B 60°

C 90°

D 45°

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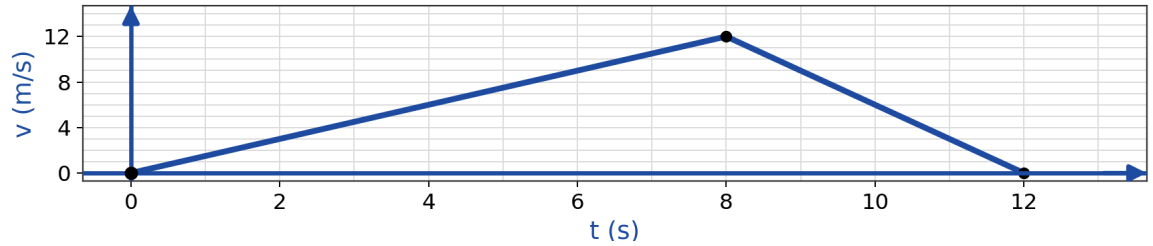
10 **The velocity-time graph shows a cyclists motion. The total distance travelled, in metres, is**



ANSWER

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ANSWER KEY

1. C
2. A
3. 24.7
4. D
5. B
6. C
7. 10
8. A
9. D
10. 72

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