

Physics Quiz: 22 Questions for High School Students

1. Which of the following is an example of a vector quantity?

- Time
- Temperature
- Velocity

2. An object is moving with a constant speed in a circular path. Which of the following statements is true?

- The velocity of the object is constant.
- The acceleration of the object is constant.
- The direction of the velocity of the object is constantly changing.

3. Which of the following statements is true about Newton's First Law of Motion?

- An object at rest will stay at rest unless acted upon by a force
- The acceleration of an object is directly proportional to the net force acting on it
- Every action has an equal and opposite reaction

4. A ball is thrown horizontally from the top of a cliff with an initial velocity of 10 m/s. If the cliff is 50 meters high, how long will it take for the ball to hit the ground?

- 1.4 s
- 2.0 s
- 5.0 s

5. Which of the following is an example of kinetic energy?

- A stretched spring
- A moving car
- A raised weight

6. A car accelerates uniformly from rest to a speed of 25 m/s in 10 seconds. What is the car's acceleration?

- 2.5 m/s²
- 10 m/s²

25 m/s²

7. Which of the following statements is true about electric charge?

- Like charges attract each other
- Opposite charges repel each other
- Neutral objects can be charged by contact with a charged object

8. A 5 kg object is suspended by a string from the ceiling of an elevator. If the elevator is accelerating upwards at a rate of 3 m/s², what is the tension in the string?

- 20 N
- 35 N
- 50 N

9. Which of the following is the SI unit for measuring electric current?

- Joule
- Watt
- Ampere

10. Which physicist developed the laws of motion and the law of universal gravitation?

- Isaac Newton
- Albert Einstein
- Stephen Hawking

11. Which of the following is an example of projectile motion?

- A car driving down a straight road
- A baseball being thrown from pitcher to catcher
- A person walking in a circle

12. A block with a mass of 2 kg is placed on a horizontal surface with a coefficient of friction of 0.4. A force of 10 N is applied to the block. What is the acceleration of the block?

- 2.0 m/s²
- 3.0 m/s²
- 4.0 m/s²

13. Which of the following is NOT an example of a vector quantity?

- Acceleration
- Mass
- Force

14. Which of the following is an example of Newton's First Law of Motion?

- A soccer ball comes to rest after being kicked across the field.
- A car speeds up when the gas pedal is pressed.
- An object at rest remains at rest unless acted upon by an external force.

15. A ray of light travels from air to glass at an angle of incidence of 30 degrees. If the refractive index of glass is 1.5, what is the angle of refraction?

- 19.5 degrees
- 30 degrees
- 45 degrees

16. Which of the following is an example of potential energy?

- A ball rolling down a hill
- A stretched rubber band
- A moving car

17. A ball is thrown straight up into the air. At the highest point of its trajectory, which of the following statements is true?

- The velocity of the ball is zero.
- The acceleration of the ball is zero.
- The force acting on the ball is zero.

18. Which of the following is true about the law of conservation of energy?

- Energy cannot be created or destroyed, only transformed from one form to another.
- The total energy of a system remains constant if no external work is done on the system.
- Both a and b are correct.

19. Which physicist developed the theory of general relativity?

- Isaac Newton
- Albert Einstein
- Galileo Galilei

20. Which of the following is an example of a non-contact force?

- Magnetic force
- Friction
- Gravity

21. Which of the following is true about the relationship between force, mass, and acceleration?

- Force is directly proportional to mass and acceleration.
- Force is inversely proportional to mass and acceleration.
- Force is directly proportional to mass and inversely proportional to acceleration.

22. An object is placed in front of a concave mirror. Which of the following statements is true?

- The image formed by the mirror is always smaller than the object.
- The image formed by the mirror is always inverted.
- The focal length of the mirror is always negative.

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Right answers

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Velocity
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2.0 s
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 2.5 m/s^2
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 3.0 m/s^2
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