

1D Newton's Laws - Quiz Review

⚠ This is a preview of the draft version of the quiz

Started: Oct 23 at 8:22am

Quiz Instructions

Question 1

1 pts

When no net force is exerted on an object, the acceleration is zero.

- True
- False

Question 2

1 pts

The relationship between net force and acceleration is _____.

- direct linear
- direct quadratic
- inverse quadratic

inverse linear

Question 3**1 pts**

Forces point toward the dot on a force diagram.

True

False

Question 4**1 pts**

1 Newton is the amount of force applied to a 1 kg object that would cause it to have an acceleration of 1 m/s/s.

True

False

Question 5**1 pts**

The net force on an object is the sum of all forces acting in one dimension.

- True
- False

Question 6**1 pts**

Inertia is a force.

- True
- False

Question 7**1 pts**

When a falling object's gravity is equal to the force air resistance, the object has reached _____.

- terminal force
- terminal illness
- terminal velocity
- terminal acceleration

Question 8**1 pts**

As the speed of an object falling through a liquid (e.g. air) increases, the resistance or drag force decreases.

 True False**Question 9****1 pts**

A 8 kg wooden block is pulled across the carpet with a pull force of 450 N. The block begins at rest and accelerates to a velocity of 15 m/s in .6 seconds. What is the force friction in N on the block?

Question 10**1 pts**

A 2000 kg car accelerates from rest to 25.2 km/hr in 7 seconds. What is the net force acting on the car in Newtons?

1 km = 1000 m

1 hr = 3600 sec

Question 11**1 pts**

A child sits on a tire swing and places one foot on the ground. The child's foot is pressed up by the ground with 50 N of force. The rope of the tire swing has a simultaneous tension force up of 250 N. The tire has mass 10 kg and the rope's mass is negligible. What is the mass of the child in kg? $g = -10 \text{ N/kg}$

Question 12**1 pts**

The distance-time graph for an object at a constant velocity and experiencing a zero net force has which shape?

- upward constant slope line
- horizontal or zero slop line
- downward curve
- upward curve

Question 13**1 pts**

The slope of a velocity-time graph is 4 m/s/s for a 15 kg object that is constantly accelerating. What is the net force in Newtons acting on the object?

Question 14**1 pts**

Two horses are pulling a 9 kg cart in the same direction, applying 45 N of force each. What is the acceleration in m/s/s of the cart?

Question 15**1 pts**

Tim and Jim have a tug of war. Tim pulls with 150 N of force while Jim pulls with 450 N in the opposite direction. If the combined mass of Tim, Jim and the rope is 60 kg , what is their combined acceleration magnitude in m/s/s ?

Question 16**1 pts**

A person has mass 49 kg on earth? What would be his or her mass on Mars in kg?

Question 17**1 pts**

If you weigh 900 N on earth and you are in an elevator that is in free fall, with how many Newtons of force does the elevator floor push up on you?

Question 18**1 pts**

A 20 kg rock is hung vertically from the base of a rope that has no mass. Where on the rope will tension be the greatest?

the top

- the tension is the same throughout
- the middle
- the bottom

Question 19**1 pts**

If a boat is pushed with a force of 100 N while traveling against a current of water that exerts a 100 N on the boat in the opposite direction of the push, the boat will _____.

- not accelerate
- accelerate

Question 20**1 pts**

If all the forces acting on an object balance so that the net force is zero, then

- the object must be at rest
- none of the above will occur
- the object's direction of motion can change, but not its speed
- the object's speed will decrease

Question 21**1 pts**

A person who weighs 500 N steps onto a scale that is on the floor of an elevator that is accelerating down at -1 m/s/s . What will the scale read (aka Force Normal)? $g = -10 \text{ m/s/s}$

Question 22**1 pts**

Two horses are pulling a 40 kg cart in the same direction, each applying a force of 80 N. What is the acceleration of the cart in m/s/s ?

Question 23**1 pts**

A golf ball (.25 kg), basketball (.75 kg) and a baseball (.5 kg) are dropped through the air, which will have the greatest terminal velocity?

- baseball
- golf ball
- basketball
- all balls will reach the same terminal velocity

Question 24**1 pts**

Newtonian third law force pairs can only exist if two or more objects are interacting.

- True
- False

Question 25**1 pts**

The normal force refers to a perpendicular contact exerted by a surface on another object.

- True
- False

Not saved

Submit Quiz