1D Newton's Laws - Quiz Review 2

This is a preview of the published version of the quiz

Started: Nov 1 at 7:47am

Quiz Instructions

Question 1 — 1 pts

When a non-zero 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 NOT _____.

- direct linear (aka directly proportional)
- inverse linear (aka inversely proportional)

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 is the sum of all forces acting on an object.

- 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 velocity
- terminal acceleration
- terminal illness
- terminal force

Question 8

1 pts

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

- True
- False

Question 9

1 pts

An 10 kg wooden block is pulled across the carpet horizontally with a pull force of 500 N. The block begins at rest and accelerates to a velocity of 6 m/s in .6 seconds. What is the force friction magnitude in Newtons 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

The force gravity on a 50 kg object remains the same whether it is on earth or on the moon.

- True
- False

Question 12

1 pts

The slope of a velocity-time graph is 6 m/s/s for a 8 kg object that is constantly accelerating. What is the net force in Newtons acting on the object?

Question 13

1 pts

Two horses are pulling a 20 kg cart in the same direction, applying 150 N of force each. What is the acceleration magnitude in m/s/s of the cart?

Question 14

1 pts

Tim and Jim have a tug of war. Tim pulls with 250 N of force while Jim pulls with 550 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 15

1 pts

A person has mass 59 kg on earth? What would be his or her mass on Jupiter in kg?

Question 16

1 pts

If you weigh 750 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 17

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

Question 18

1 pts

If a boat is pushed with a force of 1005 N while traveling against a current of water that exerts a 1005 N on the boat in the opposite direction of the push, the boat will _____.

- not accelerate
- accelerate

Question 19

1 pts

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

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

Question 20

1 pts

A person who weighs 400 N steps onto a scale that is on the floor of an elevator that is accelerating down at -3 m/s/s. What will the scale read (aka Force Normal)? g = -10 m/s/s

Question 21

1 pts

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

Question 22

1 pts

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

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

Question 23

1 pts

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

- True
- False

Question 24 1 pts

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

- True
- False

Question 25 1 pts

Maria, Jill, and a rope have a combined mass of 100 kg. Maria and Jill have a tug of war. Maria pulls to the right with 400 N of force while Jill pulls to the left with 100 N of force. What is the magnitude of their acceleration in m/s/s?

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