Semester 2 Final Review 1

This is a preview of the draft version of the quiz

Started: May 8 at 11:43am

Quiz Instructions

Electrostatics, Momentum, Impulse, Energy

Question 1 — 1 pts

Which is a way you can change the momentum on an object? Choose all that apply.

- [ ] apply balanced forces
- [ ] change the mass
- [ ] change the velocity

Question 2 — 1 pts

Is the impulse greater or smaller when objects bounce instead of just stop?

- [ ] just stop
- [ ] bounce

Question 3 — 1 pts

The momentum change of an object is equal to?

- [ ] mass x accelertaion
- [ ] force x time

- [ ] force x distance
- [ ] net force divided by mass
- [ ] Newtons divided by Meters

Question 4

1 pts

Why is the recoil speed of a gun much smaller then the speed of the bullet if momentum has to be conserved?

- [ ] the machine gun has more mass than the bullet
- [ ] the force on the machine gun is less than that on the bullet
- [ ] the machine gun has more kinetic energy

Question 5

1 pts

Ben stepped up to the plate and hit a 0.250 kg underhand ball traveling at 12.0 m/s that was pitched by Sydney. The impact caused the ball to leave his bat with a velocity of 20.0 m/s in the opposite direction. If the impact lasted for 0.008 sec, what net force magnitude did Ben exert on the baseball? Newtons

Question 6

1 pts

Ben stepped up to the plate and hit a 0.250 kg underhand ball traveling at 12.0 m/s that was pitched by Sydney. The impact caused the ball to leave his bat with a velocity of 20.0 m/s in the opposite direction. If the impact lasted for 0.008 sec, what was the acceleration of the ball? m/s/s

Question 7

1 pts

A 70 kg desk is at rest. You push the desk with a net force of 50 N for 4 seconds. What is the change in momentum of the desk? Ns

Question 8

1 pts

A 70 kg desk is at rest. You push the desk with a net force of 50 N for 4 seconds. What is its speed at 4 seconds? m/s

Question 9

1 pts

A roller coaster begins at rest at the top rail. What type of energy does it have when it reaches the bottom? Assume no friction.

- electric potential
- gravitational potential
- kinetic
- elastic potential
- heat

Question 10

1 pts

A roller coaster begins at rest at the top rail. What type of energy does it have when it reaches the top? Assume no friction.

- elastic potential
- thermal
- electric potential
- gravitational potential
- kinetic

Question 11

1 pts

A roller coaster begins at rest at the top of hill and then goes down into a loop de loop with maximum height half of the hill . What type of energy does it have when it reaches the top of the loop de loop? Assume no friction. Choose all that apply.

- kinetic
- gravitational potential
- electric potential
- thermal
- elastic potential

Question 12

1 pts

If a crane is replaced with a new crane that has twice the power, how much greater a load can it lift in the same amount of time?

- quadruple

- [ ] triple
- [ ] double
- [ ] half

Question 13

1 pts

Matt, who is 50 kg, is standing at the top of a muddy hill on a rainy day. The hill is 100.0 m long with a vertical drop of 30.0 m. Matt slips and begins to slide down the hill. What is Matt's potential energy at the top of the hill? Joules

g = 10 m/s/s

Question 14

1 pts

Matt, who is 50 kg, is standing at the top of a muddy hill on a rainy day. The hill is 100.0 m long with a vertical drop of 30.0 m. Matt slips and begins to slide down the hill. What is the Matt's speed at the bottom of the hill (no friction)? m/s

g = 10 m/s/s

Question 15

1 pts

Matt, who is 50 kg, is standing at the top of a muddy hill on a rainy day. The hill is 100.0 m long with a vertical drop of 30.0 m. Matt slips and begins to slide down the hill. If Matt's

compresses a Hooke's law spring with K = 200 N/m at the bottom of the hill, how far will the spring compress (assume no friction)? meters

g = 10 m/s/s

Question 16

1 pts

If a spring has elastic energy and is used to move a toy car vertically on a table, what type of energy does the car have after the spring has been fully sprung?

- electric potential
- kinetic
- gravitational potential
- elastic potential

Question 17

1 pts

If a spring has elastic energy and is used to move a toy car, what type of energy does the car have after the spring has spring and rolls to a stop on an inclined plane. Assume no friction.

- elastic potential
- kinetic
- gravitational potential
- electric potential

Question 18

1 pts

An electron and a proton are 1 meter apart. The are _____ to one another.

- repelled
- attracted

Question 19

1 pts

An electron and a proton are 1 meter apart. What happens to the velocity of the electron as it approaches the proton?

- speeds up
- slows down
- remains the same speed

Question 20

1 pts

An electron and a proton are 1 meter apart. What happens to the velocity of the proton as it approaches the electron?

- speeds up
- remains the same speed
- slows down

Question 21

1 pts

An electron and an electron are 1 meter apart. What happens to the velocity of each electron they become farther apart?

- speeds up
- remains the same speed
- slows down

Question 22

1 pts

An electron and an electron are 1 meter apart. The electrons are _____ by one another.

- repelled
- attracted

Question 23

1 pts

What would happen to the electric force on two charges if the distance between them tripled?

- Decrease by 1/3
- Increase by 9
- Nothing will change.
- Increase by 3
- Decrease by 1/9
- Become half
- Double

Question 24

1 pts

The velocity of a 10 kg mass increases, but its mass stays the same. What will happen to its momentum?

- increase
- decrease
- remain the same

Question 25

1 pts

Two objects collide head on in one dimension. The first object has twice the mass of the first. The second object has twice the speed of the first. The two objects stick together after colliding. The velocity of the combined mass will be _____.

- in the direction object 1 was originally traveling
- impossible to determine
- 0 m/s
- in the direction object 2 was originally traveling

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