### **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 app	oly.
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	v	distance
	х	uistance

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 mom has to be conserved?	entum
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 the change in momentum of the desk? Ns	with a net force of 50 N for 4 seconds. What is

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 its speed at 4 seconds? m/s	. What is

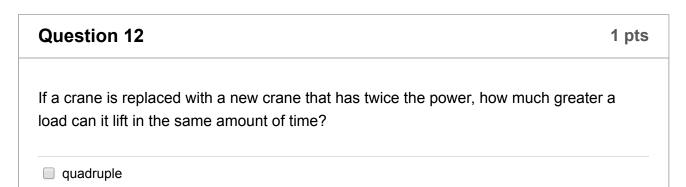
Question 9	1 pts
A roller coaster begins at rest at the top rail. What type of energy does it have when reaches the bottom? Assume no friction.	n it
electric potential	
<ul> <li>gravitational potential</li> </ul>	
○ kinetic	
<ul> <li>elastic potential</li> </ul>	
heat	

Question 10	1 pts
A roller coaster begins at rest at the top rail. What type of energy does it have when reaches the top? Assume no friction.	n it
<ul> <li>elastic potential</li> </ul>	
<ul> <li>thermal</li> </ul>	
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



triple	
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 m long with a vertical drop of 30.0 m. Matt slips and begins to slide down the hill. 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 m long with a vertical drop of 30.0 m. Matt slips and begins to slide down the hill. W the Matt's speed at the bottom of the hill (no friction)? m/s	
g = 10 m/s/s	

# Question 151 ptsMatt, who is 50 kg, is standing at the top of a muddy hill on a rainy day. The hill is 100.0<br/>m long with a vertical drop of 30.0 m. Matt slips and begins to slide down the hill. If Matt's

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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 type of energy does the car have after the spring has been fully sprung?	table, what
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 ty car have after the spring has spring and rolls to a stop on an incline friction.	
elastic potential	
○ kinetic	
<ul> <li>gravitational potential</li> </ul>	
electric potential	

An electron and a proton are 1 meter apart.	The are	_ to one another.
○ repelled		
<ul> <li>attracted</li> </ul>		

Question 19	1 pts
An electron and a proton are 1 meter apart. as it approaches the proton?	What happens to the velocity of the electron
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 as it approaches the electron?	proton
speeds up	
<ul> <li>remains the same speed</li> </ul>	
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?

$\bigcirc$	speeds	up
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remains the same speed

slows down

Question 22	1 pts
An electron and an electron are 1 meter apart. The electrons are another.	by one
repelled	
attracted	

Question 23	1 pts
What would happen to the electric force on two charges if the distance between ther tripled?	n
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?	

decrease

remain the same

Question 25	1 pts
Two objects collide head on in one dimension. The first object has twice the mass first. The second object has twice the speed of the first. The two objects stick toget after colliding. The velocity of the combined mass will be	
in the direction object 1 was originally traveling	
<ul> <li>impossible to determine</li> </ul>	
○ 0 m/s	
in the direction object 2 was originally traveling	

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