

Semester 2 Final Review 2

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

Started: May 8 at 12:26pm

Quiz Instructions

Uniform Circular Motion, Electricity, Waves and Circuits

Question 1

1 pts

A ball is attached to the end of a string with length 'L' and is spun in a perfectly horizontal circle at velocity 'V'. What would happen to the needed tension in the string if the length of it were doubled in order to keep the ball in uniform circular motion? Assume the magnitude of the tangential velocity and mass remain the same for the ball.

The tension would be multiplied by a factor of _____.

- 2
- 3
- 1/3
- 1/2
- 1/4
- 4
- 9

Question 2

1 pts

Centripetal acceleration is always pointed _____ of the circular path.

- away from the center
- toward the center

- tangentially

Question 3**1 pts**

Centripetal force is always pointed _____ of the circular path.

- tangentially
- away from the center
- toward the center

Question 4**1 pts**

A ball is attached to the end of a string with length 'L' and is spun in a perfectly horizontal circle at velocity 'V'. What would happen to the needed tension in the string if the velocity magnitude tripled in order to keep the ball in uniform circular motion? Assume the string length and mass remain the same for the ball.

The tension would be multiplied by a factor of _____.

- 1/9
- 4
- 1/16
- 2
- 1/3
- 3
- 9
- 1/2
- 16
- 1/4

Question 5**1 pts**

If an object is moving in a circle at a constant speed, is it accelerating?

- no
- yes
- impossible to determine

Question 6**1 pts**

What is Ohm's Law (equation)?

- $V=IR$
- $R = V/I$
- all the above
- $I = V/R$

Question 7**1 pts**

What is the power equation?

- $P = IV$
- $P = I/V$
- $P=V/I$
- all the above

Question 8**1 pts**

Using Ohm' Law what happens to the current if you double the voltage?

- decreases by 1/2
- quadruple
- double
- decreases by 1/3
- decreases by 1/4
- triple

Question 9**1 pts**

Using Ohm' Law what happens to the current if you tripled the resistance?

- increase by 4
- increase by 3
- increase by 9
- decrease by 1/4
- decrease by 1/9
- decrease by 1/3

Question 10**1 pts**

What happens to the overall resistance when you add resistors in new paths to a parallel circuit?

- decrease
-
- remains the same
-
- increase

Question 11**1 pts**

What is the total resistance of a 5-ohm resistor and a 3-ohm resistor in a series circuit?

Ohms

Question 12**1 pts**

What is the total resistance of a 2-ohm resistor and a 2-ohm resistor in a parallel circuit?

Ohms

Question 13**1 pts**

Two resistors are in placed in series with a battery whose voltage is 4.5 V. Resistor 1 has a value of 12 ohms while resistor 2 has a value of 15 ohms. Determine the current through the battery and through each resistor. Amps

Question 14**1 pts**

What is the period of if the frequency is .25Hz? seconds

Question 15**1 pts**

A 256 Hz tuning fork is struck and a sound wave travels towards a person. If the sound wave is moving 340 m/s, determine the wavelength of the sound. meters

Velocity = Wavelength*Frequency

Question 16**1 pts**

A water wave is moving with a velocity of 0.5 m/s. If its wavelength is 1.5 m, determine the frequency of the wave in Hz.

Velocity = Wavelength*Frequency

Question 17**1 pts**

A 50 Volt battery is connected to a 4 Ohm resistor in series then a 3 Ohm and 9 Ohm in parallel. What is the voltage drop across the 9 Ohm resistor? Volts

Question 18**1 pts**

A 50 Volt battery is connected to a 4 Ohm resistor in series then a 3 Ohm and 9 Ohm in parallel. What is the voltage drop across the 3 Ohm resistor? Volts

Question 19**1 pts**

A 50 Volt battery is connected to a 4 Ohm resistor in series then a 3 Ohm and 9 Ohm in parallel. What is the voltage drop across the 4 Ohm resistor? Volts

Question 20**1 pts**

A 50 Volt battery is connected to a 4 Ohm resistor in series then a 3 Ohm and 9 Ohm in parallel. What is the current through the 9 Ohm resistor? Amps

Question 21**1 pts**

A 50 Volt battery is connected to a 4 Ohm resistor in series then a 3 Ohm and 9 Ohm in parallel. What is the current through the 3 Ohm resistor? Amps

Question 22**1 pts**

A 50 Volt battery is connected to a 4 Ohm resistor in series then a 3 Ohm and 9 Ohm in parallel. What is the current through the 4 Ohm resistor? Amps

Question 23**1 pts**

A 50 Volt battery is connected to a 4 Ohm resistor in series then a 3 Ohm and 9 Ohm in parallel. What is the current through the battery? Amps

Question 24**1 pts**

A 50 Volt battery is connected to a 4 Ohm resistor in series then a 3 Ohm and 9 Ohm in parallel. What is the total equivalent resistance of the circuit? Ohms

Question 25**1 pts**

A 50 Volt battery is connected to a 4 Ohm resistor in series then a 3 Ohm and 9 Ohm in parallel. What is the power output of the battery? Watts

Question 26**1 pts**

A 50 Volt battery is connected to a 4 Ohm resistor in series then a 3 Ohm and 9 Ohm in parallel. What is the power output of the 4 Ohm resistor? Watts

Question 27**1 pts**

A 50 Volt battery is connected to a 4 Ohm resistor in series then a 3 Ohm and 9 Ohm in parallel. What is the power output of the 3 Ohm resistor? Watts

Question 28**1 pts**

A 50 Volt battery is connected to a 4 Ohm resistor in series then a 3 Ohm and 9 Ohm in parallel. What is the power output of the 9 Ohm resistor? Watts

Question 29**1 pts**

A 50 Volt battery is connected to a 4 Ohm resistor in series then a 3 Ohm and 9 Ohm in parallel. What is the equivalent resistance of the 3 and 9 Ohm resistors in parallel?

Ohms

Question 30**1 pts**

The velocity of a wave only depends upon the medium (aka substance) in which it travels.

True

False

Not saved