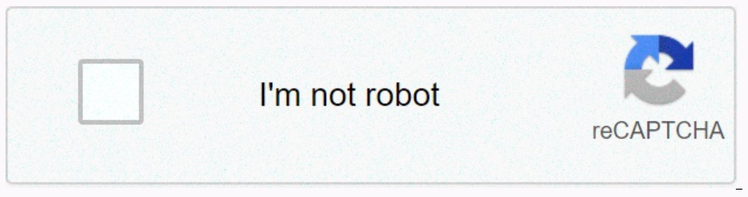

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Direction of the magnetic field due to a wire conceptual question

1. For the calculation of magnetic fields, what are the advantages and disadvantages of the Biot-Savart Act? 2. Describe the magnetic field due to the current in two wires connected to the two terminals of the EMF source and tightly twisted around each other. 3. How can you decide if the wire is infinite? 4. Identical currents are carried in two circular loops; however, one loop has twice the diameter of the second loop. Compare magnetic fields created by loops in the center of each loop. 5. How would you orient two long, straight wires that carry electricity so that there is no network magnetic force between them? (Tip: What orientation would lead to one wire not experiencing a magnetic field from another?) 6. Compare and compare the electric field of the infinite charge line and the magnetic field of the infinite line of current. 7. Is $B\rightarrow B\rightarrow$ constant in size for points lying on the magnetic field line? 8. Is the magnetic field of the current loop uniform? 9. What happens to the length of the suspended spring when electricity passes through it? 10. Two concentric circular wires of different diameters carry currents in the same direction. Describe the force on the inner wire. 11. Does Ampère's law apply to all closed lanes? Why is it usually not useful for calculating the magnetic field? 12. Is the magnetic field inside the toroid completely uniform? Almost a uniform? 13. Explain why $B\rightarrow=0B\rightarrow=0$ inside a long, hollow copper pipe carrying an electric current parallel to the wasx. Is $B\rightarrow=0B\rightarrow=0$ out of the pipe? 14. Diamagnetic material is brought close to a permanent magnet. What happens to the material? 15. If you cut the rod magnet in two, will you end up with one magnet with an isolated north pole and another magnet with an isolated south pole? Explain your answer. Do you want to specify, share, or modify this book? This book is Creative Commons Attribution License 4.0 and you must attribute OpenStax. Attribution Information If you are reallocated all or part of this book in print format, you must include the following attribution on each physical page: Access for free to If you are redistributing all or part of this book in digital format, then you must include the following attribution on each digital page: Access free of charge to Quote Information ©. Last: September 2, 2020 The content of the textbook produced by OpenStax is licensed on the basis of the Creative Commons Attribution License 4.0 license. The openstax logo, openstax logo, openstax book covers, OpenStax CNX name and OpenStax CNX logo are not subject to the Creative Commons license and cannot be reproduced without rice University's prior and explicit written consent. 1. Would electricity potential energy be significant if The field wasn't conservative? 2. Why do we need to be careful in working on the system in relation to the operation of the system in calculations? 3. Does the order in which the dotted cost system be assembled affects the total work done? 4. Talk about how the potential difference and power of the electric field are linked. Give an example. 5. What is the power of the electric field in a region where electrical potential is constant? 6. If the proton is released from sleep in the electric field, will it move towards increasing or decreasing the potential? Also answer this question for electron and neutron. Explain why. 7. Voltage is a common word for a potential difference. Which term is more descriptive, voltage or potential difference? 8. If the voltage is between two points is zero, can the test charge be moved between them with zero net work? Can it necessarily be done without exerting force? Explain. 9. What is the relationship between voltage and energy? More specifically, what is the relationship between potential difference and electricity potential? 10. Voltages are always measured between two points. Why? 11. How are volt and electron volt units connected? How are they different? 12. Can a particle move towards increasing its electrical potential and yet its electricity potential energy is decreasing? Explain 13. Compare electrical dipole charging moments $\pm Q\pm Q$ separated distance d and charged $\pm Q/2\pm Q/2$ separate distances d/2. 14. Would gauss' law be useful for determining the electric field of dipothel? Why? 15. In what region of space is the potential due to an evenly charged sphere the same as a point? In what region is it different from the charge point? 16. Could the potential of an uninformedly charged sphere be the same as a point? Explain. 17. If the electric field is zero throughout the region, must the electrical potential also be zero in that region? 18. Explain why knowledge of $E\rightarrow(x,y,z)E\rightarrow(x,y,z)$ is not enough to determine V(x,y,z). What's the other way around? 19. If the two points are in the same potential, are there electrical field lines connecting them? 20. Suppose you have a map of equipping surfaces with a gap of 1.0 V. What do the distances between surfaces in a particular region tell you about the power of $E\rightarrow E\rightarrow$ in that region? 21. Is electrical potential necessarily constant across the conductor's surface? 22. Under electrostatic conditions, the excess charge on the conductor is located on its surface. Does that mean all the water electrons in the conductor are on the surface? 23. Can a positively charged conductor be on negative potential? Explain. 24. Can the equipment surfaces be cut? 25. Why are metal support rods for satellite network antennas generally based? 26. (a) Why fish are reasonably safe in Storm? (b) Why are swimmers still ordered out of the water under the same circumstances? 27. What are the similarities and differences between the process in the photocopier and electrostatic deposition? 28. What size potential is used to fill the drum of a photocopy machine? Web search for xerography can be useful. Part D: B is off the page in case you can't read it. Posted by David at 8:22 AM Labels: EM, spoiler Tactics Box 32.1 Right rule for fields Magnetic field from two wires Wire and compass direction magnetic field due to wired conceptual question Magnetic field in the center of magnetic field wire loop due to semi-solid wires Conceptual question 32.25 Problem 32.11 Problem 32.12 Problem 32.13 Problem 32.8 Problem 32.42 Force between two , Video tutor parallel wires : Current-carrying wire interacting magnetic field of current loop with magnetic field video tutor: Magnet and electronic beam ± force on moving hints in magnetic field Charged particles moving in magnetic field ranking task Magnetic field Magnetic Force Drawing Magnetic Force on Charged Particles Conceptual Question Mass Spectrometer Conceptual Questions Improved EOC: Problem 32.27 ± Magnetic Force on Wire Current Transmission Enhanced EOC : Problem 32.33 Improved EOC: Problem 32.36 Conceptual Question 32.6 Conceptual Question 32.7 Conceptual Question 32.8 Conceptual Question 32.9 Problem 32.26 Problem 32.59 32.59