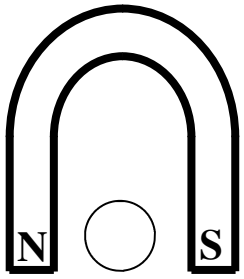
A-day: Due Fri., May 13
B-day: Due Tues., May 16

2011 Magnetism 2

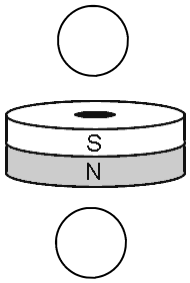
From the "Magnetic Fields" notes:

1. Draw the symbol for out of the page: For into the page:
2. Which side of a compass is its north pole?
3. A compass needle points toward which pole of a magnet?
4. Using the rules shown on the notes, for the following diagrams, draw the arrow inside the compasses to show which way each compass will point.

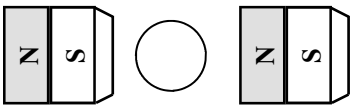
A)



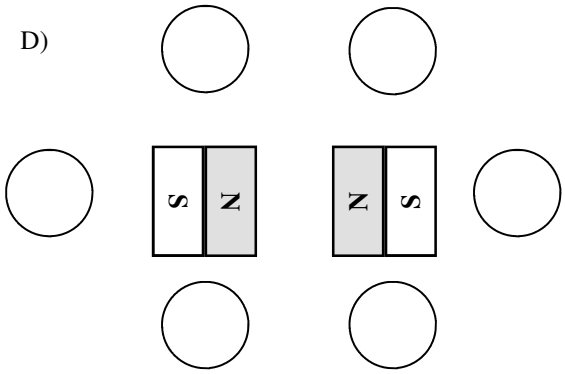
B)



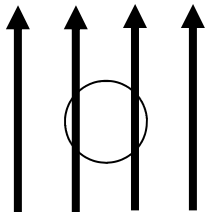
C)



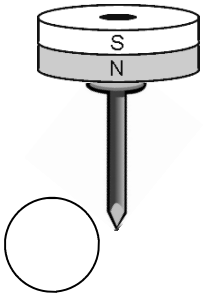
D)



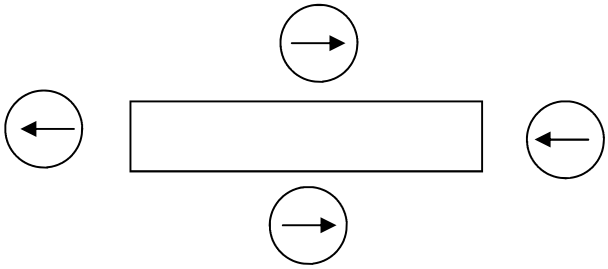
E)

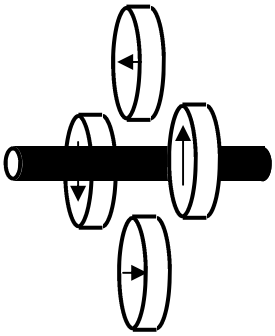


F)



5. Use the compasses to mark the north and south poles of the bar magnet at the right. (*Notice that the compasses point to the right on BOTH sides of the magnet.)*

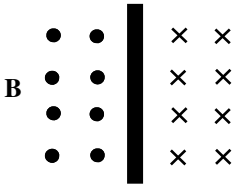




6. (*From "Magnetism 1*") What do we call a magnet suspended above another magnet?

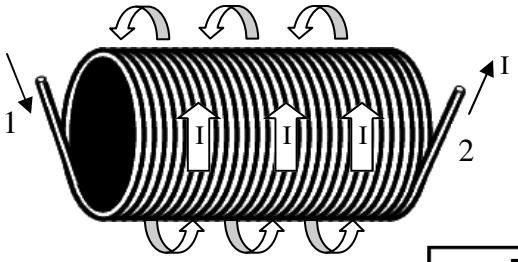
7. In the diagram at the right, use the compasses to decide which direction the current flowing in the wire: to the right or to the left?

8. A. In the diagram at the right, which direction is the magnetic field (B) on the left side of the wire: into or out of the page?
   B. Which direction is the magnetic field (B) on the right side of the wire?
   C. Which direction must the current be flowing in the wire?



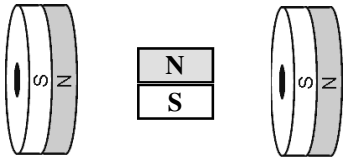
A wire

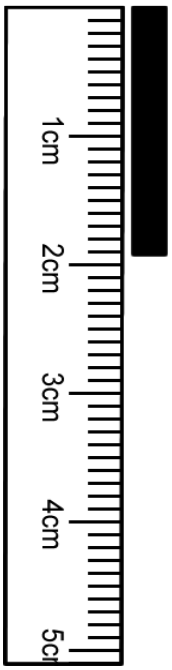
9. A. The group of coiled wires at the right is called a s_____.
   B. Current flowing thru wires causes m_____.
   C. If the current is moving as shown, which side is north?



10. The wire below has electric current flowing into the page. Pointing your right thumb into the page, which way does the magnetic field point: clockwise or counterclockwise?

11. A. Between the two donut magnets which way does the magnetic field (B) point?
    B. Which way will the north pole of the inner magnet turn?



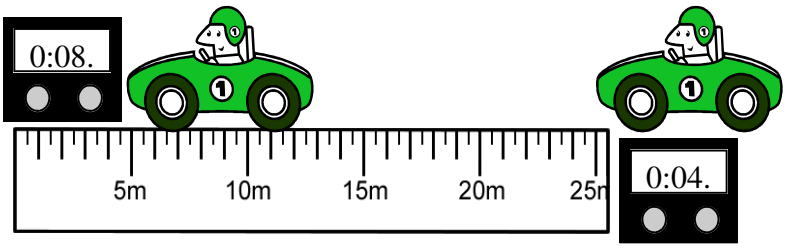


Studying for EOC:

12. Use the ruler at the right to answer the following.
    A. How long is the black line in millimeter?
    B. In centimeters?
    D. In meters?

13. A. Does the car have a positive or negative velocity?

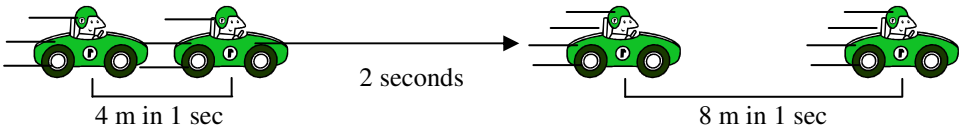
    B. Determine the velocity of the car.

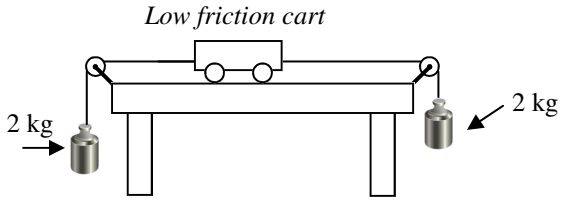


14. A. Is the car at the right at constant speed or accelerating?

    B. How do you know?

    C. Calculate the acceleration of the car.





15. A. What is the acceleration of the cart at the left?

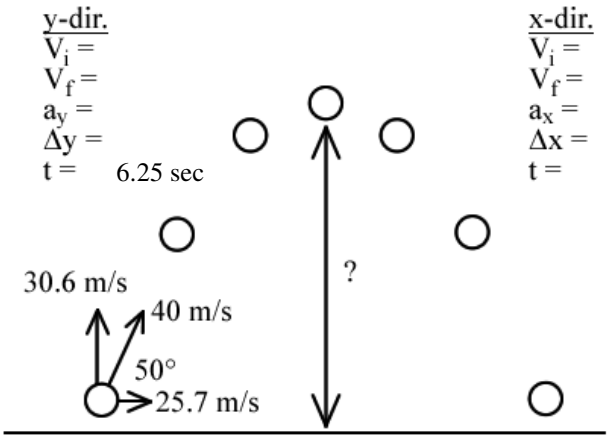
    B. Which way is it moving?

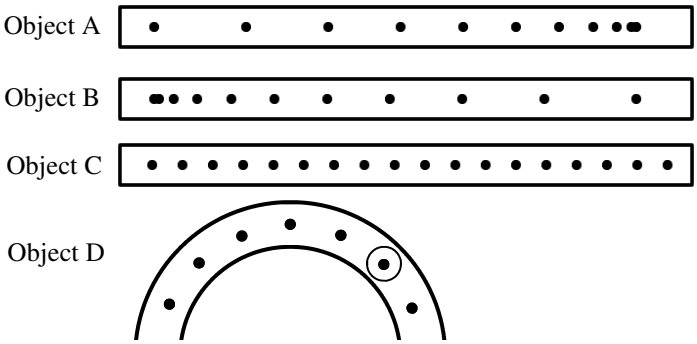
16. From "Projectile Motion" notes or Study Help.
    A. Fill in the information on the graphic at the right.

    B. How was 30.6 m/s calculated?

    C. What is the speed of the object at the apex (very top)?

    D. Calculate Δx.

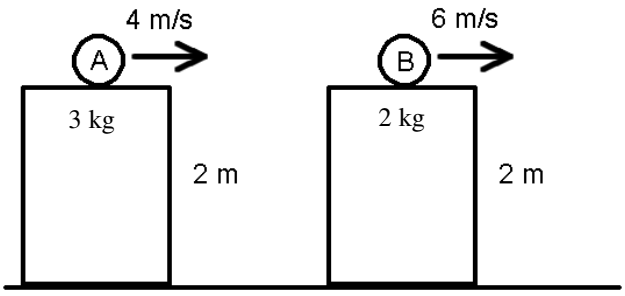




17. From "Acceleration" notes.
The dots show the position of objects each second.
Which object or objects show the following?

____ Constant speed.
____ Positive acceleration.
____ At constant velocity.
____ Accelerating.
____ Decelerating.
____ Acceleration = 0.
____ Distance increases
____ Starts at rest.
____ Is stopping.
____ Constant direction.
____ Negative acceleration.
____ $V_i = V_f$

18. At the position of the circled dot above draw and label an arrow that shows the direction of its acceleration and velocity.



19. Two objects are thrown horizontally off of two identical tables.
   A. When ball A hits the ground, what will be its vertical displacement? $\Delta y =$
   B. Which one will have the greater range?
   C. Why?
   D. What is the initial vertical velocity of ball B? $Vy_i =$
   E. What is the vertical acceleration of ball A? $a_y =$
   F. If ball A is heavier than ball B, which ball hits the ground first?
   G. How much potential energy does ball A have to begin with?
   H. How much kinetic energy does ball A have to begin with?
   I. How much total energy will ball A have when it hits the ground?
   J. Calculate the time for ball A to hit the ground.
   K. Calculate the range for ball A.