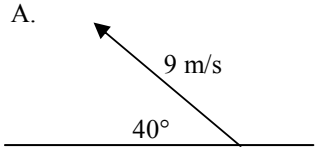
A-Day: Due Fri., Oct 5 (Assigned: 10/3)
B-Day: Due Tues., Oct 9 (Assigned: 10/4)

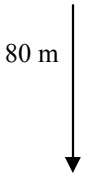
Two Dimensions 4

1. Resolve the following vectors into their x and y components.

A.

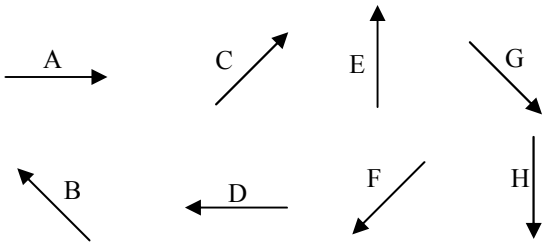


B.



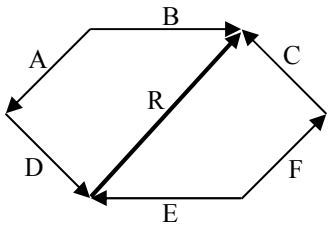
Use the vectors at the right to answer the following:

2. Which vector/s have –X and –Y components?
3. Which vector has –X and Y = 0?
4. Which vectors have +X components?
5. Which vectors have –Y components?
6. Which vector has a direction of 90°?
7. Which vector has a direction of 180°?
8. Which vector has a direction of –45°
9. Which vector has a direction of 135°?



10. Without drawing, what is A + C –2D + F?

11. Draw 2E—G + F.



Now that you understand how to do this….

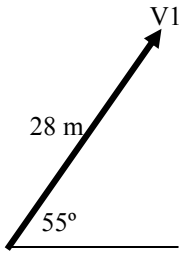
12. Give three combinations of vectors that would correctly produce R.

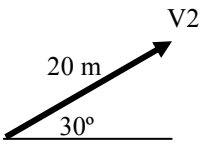
13. If $x_1 = 20$m, $y_1 = 9$m, $x_2 = -5$ m, $y_2 = 6$ m,
    A) Find the total displacement's magnitude and direction. (*Draw it, too*.)

14. An object moves 5 m/s for 8 seconds at 60°. How far does it move in the x-direction?
    (*See #38 on the worksheet from class.)*

More on back

15. Now let's combine what we know, step-by-step…
    A) Resolve vector 1 and 2 into their components. *(Now you have only x's and y's. YEA! And the rest of this problem is like #35)*





    B) Find Xtotal:

    C) Find Ytotal:

    D) With Xtotal and Ytotal, draw your resultant's triangle.

    E) Find the resultant's magnitude and direction.

(*You have just "Added Vectors", by many considered one of the hardest part of physics. You should have done it relatively easily. Be pleased.)*

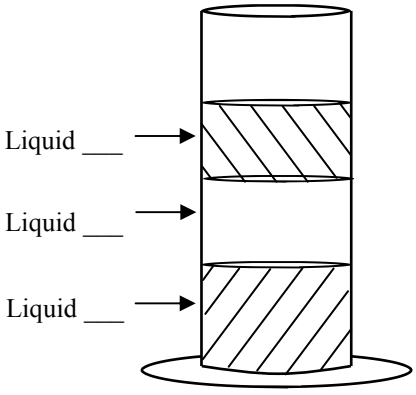
16. What is the density of water?

17. How many grams is 35 mL of water?

18. How much volume is 62 grams of water?

19. Float or sink in water?
    _____ Object A; D = 0.65 g/mL.
    _____ Liquid B; D = 1.5 g/mL
    _____ Ice

20. Liquid A = 1.4 g/mL
    Liquid B = 0.91 g/mL
    Liquid C = 1.0 g/mL
    Label this density column with liquids given.



21. You know one of the liquids. Label it.

22. Where would ice float? Draw it.