18m 30°
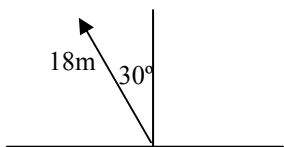
1. A. * What direction will you use for the 18m displacement?
    B. * Calculate its x and y components.

2. A ball is thrown into the air.
    A. On the way up, does it speed up or slow down?
    B. Is that a positive or negative acceleration?
    C. On the way down, does it speed up or slow down?
    D. Is that a positive or negative acceleration?

3. An object is moving to the left and has a positive acceleration.
    A. Is it speeding up or slowing down?
    B. Does the distance it travels each second increase or decrease?

4. * Jar Jar Binks is sitting on the edge of a 25 m tall cliff. Suddenly a group of devote Star Wars fans sees him and does what any other true Star Wars fans would, they push him off the cliff. ("*Meesa fallin!*") How long does it take Jar Jar to hit the ground and how loud are the fans applauding? (*Thanks to the APC Physics girls for the story*.)

As we discovered in the last homework and in class, the area between the line and the x-axis is the displacement of the object. Also, you could look at the "Integration" notes.

Velocity vs. Time
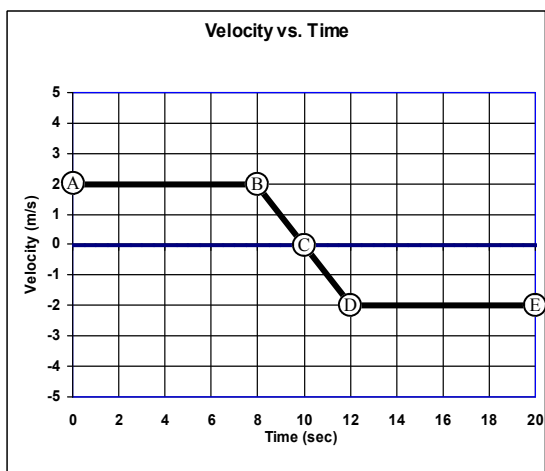
5. Use the graphs at the left for the following.

    A. From A to B calculate the displacement (area) of the object.

    B. * From B to C calculate the displacement (area of the triangle).

    C. * What is the total from A to C?
    D. * Calculate the displacement from C to D. It will be negative.

    E. Calculate the displacement from D to E (also negative).
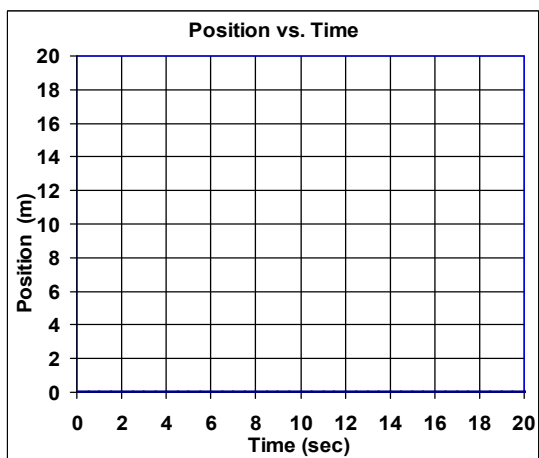
    F. * What is the total from C to E?
    G. Fill in the table, starting at 0 m and adding and subtracting the displacements you found above.

    Follow my instructions carefully.

    H. Draw dots to show where the object is on the position graph.

    I. You should know that for two of the times the object was moving at constant speed. Use straight lines.

    J. For the acceleration portion make sure to pass thru the dots and use a curve.

Point	Time	Position
A	0 sec	0 m
B	8 sec	
C		
D		
E		

Position vs. Time

1A) 120 degrees 1B) x = −9m 4) remembert that vi = 0 and Δy = −25 m .   t = 2.26 sec

5B) 2 m which is ½bh = ½(2)2

5C) 18 m 5D) −2m 5F) −18 m