2011 PreAP Linear Motion 13

1. * Jar Jar Binks has been caught. He is thrown 6.5 m/s up into the air. How high does he go?

2. * Not liking this character, but not entirely diabolical, the Star Wars-ians drop Jar Jar Binks onto something soft, like Jabba the Hut.   If they drop him from 8 m, how long does it take for Jar Jar to land on Mr. Hut?

3. * Jar Jar then tries to get away, crawling slowly, using the celebration of the Star Wars devotees as cover. Jar Jar has an acceleration of 0.15 m/s^2. Jar Jar reaches 0.85 m/s before the 3.4 second celebration is over. How far does Jar Jar crawl before again being caught?
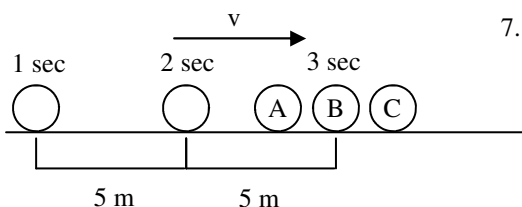
Review:

4. How many sig figs?

    A. * 3050
    B. * 0.002500
    C. 6.02×10^{-2}
    D. 402000.00
    E. 5.030
    F. 9.8
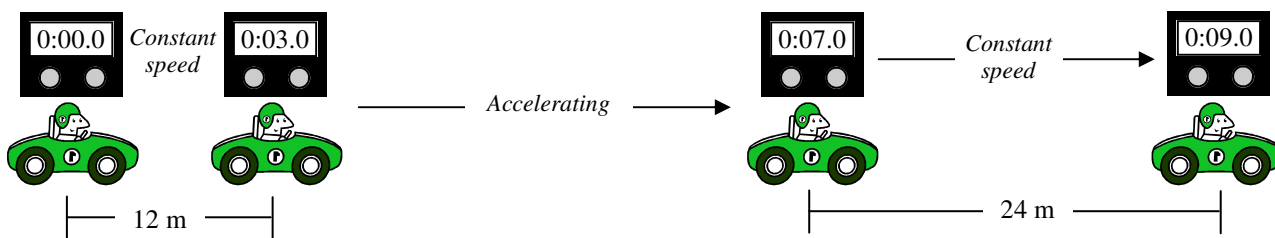
5. Do the following math operations, giving your answers with the correct number of sig figs.

    I.   * B + E
    J.   * F × B
    K.   A + E.
    L.   A × C
    M.   C ÷ B

6. Three lengths end up equaling 1.25 m. Length I = 120.3 mm; Length II = 56.28 cm.
    A.   Convert all of them to meters and take them out of sci notation (so you can compare decimals).

    Length I = _____; Length II = _____; Total = _____

    B.   * Calculate the third length. Give your answers with the correct # of sig figs.

7. The graphic shows an object moving to the right. A, B, and C show where it *COULD* be after 3 seconds.
    i.   Where will it be if it has a positive acceleration?
    ii.   Where will it be if it has a negative acceleration?
    iii.   Where will it be if it has no acceleration?

8. The diagram above shows an object accelerating.
    A.   * What is its initial speed?
    B.   What is its final speed?
    C.   For how long was it accelerating?
    D.   * Calculate its acceleration.

1) remember that Vf = 0;   Δy = 2.16 m   2) Vi = 0 and Δy = neg   so, t = 1.28 sec

3) 2.023 m

4A) 3   4B) 4   5I) 5.033   5J) 0.025

6Length II = .5628cm   6B) 0.57 m (answer is only good to the 2nd decimal)

8A) 4 m/s   8D) 2 m/s^2