**Example 1:**

**A Ford Focus is travelling at a constant velocity of 30 ms-1 east along a straight, flat road.  The driver applies the brakes to produce a uniform deceleration of magnitude 10 ms-2 west to bring the car to rest.  Determine the time taken by the car to come to rest.**

**Solution:**

Having read the problem through once, we go back, **draw a diagram** and **write down what we know & what we are looking for**.  This produces the following.

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u = 30 ms-1 East =  + 30 ms-1 (note that we have decided that East is positive)

a = 10 ms-2 West =  - 10 ms-2

v = 0 ms-1

t = ? (we are looking for the time)

The data clearly suggest using the equation **v = u + at**.  So, re-arranging this equation before entering the data, we have:

           t = (v – u) / a.

Substituting into this equation, we have:

               t = (0 – 30) / (-10) = 3 s.

**Clearly, the time taken by the car to come to rest is 3 seconds.**