**9C & D SUVAT Equations**

1. A cyclist is travelling along a straight road. She accelerates at a constant rate from a speed of 4ms-1 to a speed of 7.5ms-1 in 40 seconds. Find:
2. The distance travelled over this 40 seconds
3. The acceleration over the 40 seconds
4. A particle moves in a straight line from a point A to B with constant deceleration of 1.5ms-2. The speed of the particle at A is 8ms-1 and the speed of the particle at B is 2ms-1. Find:
5. The time taken for the particle to get from A to B
6. The distance from A to B

After reaching B the particle continues to move along the straight line with the same deceleration. The particle is at point C, 6 seconds after passing through A. Find:

1. The velocity of the particle at C
2. The distance from A to C
3. A particle is moving in a straight line from A to B with constant acceleration 5ms-2. The velocity of the particle at A is 3ms-1 in the direction AB. The velocity at B is 18ms-1 in the same direction. Find the distance from A to B.
4. A particle is moving in a straight horizontal line with constant deceleration 4ms-2. At time t = 0 the particle passes through a point O with speed 13ms-1, travelling to a point A where OA = 20m. Find:
5. The times when the particle passes through A
6. The total time the particle is beyond A
7. The time taken for the particle to return to O
8. A particle is travelling along the x-axis with constant deceleration 2.5ms-2. At time t = O, the particle passes through the origin, moving in the positive direction with speed 15ms-1. Calculate the distance travelled by the particle by the time it returns to the origin.