Finding Distances during Accelerated Motion

Name: _____   Date: _____

Useful equations:

$$a = \frac{\Delta v}{\Delta t} = \frac{v_2 - v_1}{\Delta t} \qquad v_{av} = \frac{v_1 + v_2}{2} \qquad v_{av} = \frac{\Delta d}{\Delta t}$$

1. Walter is riding a crazy camel and is accelerating at a rate of 15 m/s/s. Their initial speed was 10 m/s and its final speed was 135 m/s.

   a) Calculate the time they were accelerating for.

   b) Calculate the average speed that they were travelling at during this time.

   c) Using the average speed, calculate how far they travelled in this time.

   d) If the crazy camel then came to screeching stop in 4 seconds calculate the acceleration they would experience?

Practice:

2. A car is moving at 20 m/s and accelerates at a rate of 8 m/s/s for 7 seconds.
    a) Calculate the final speed of the car.

    b) Calculate the average speed of the car.

    c) Calculate the distance the car travelled over the 7 seconds.