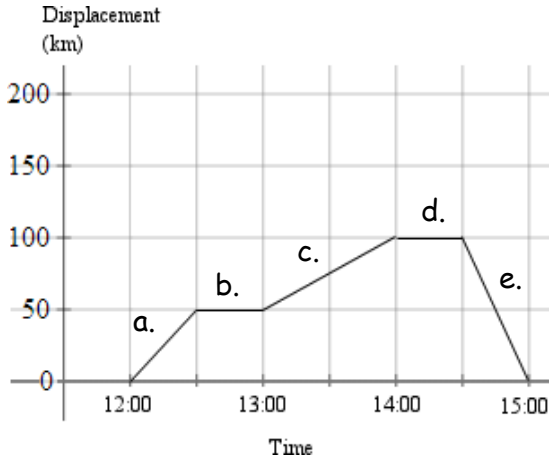
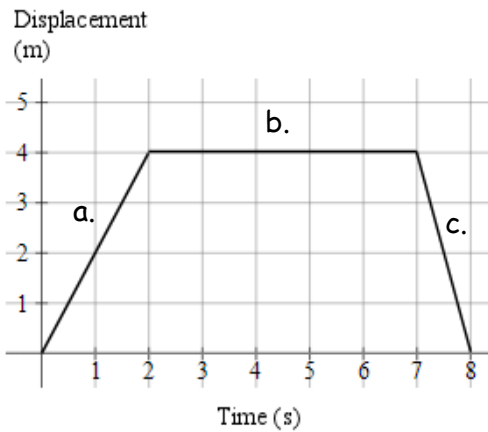


Day 1: On your OWN PAPER, work out the following problems. SHOW YOUR WORK

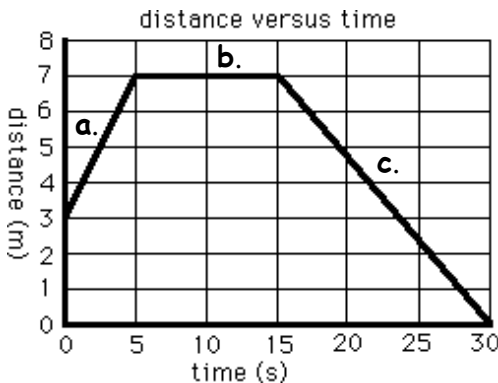
1. This is the graph of a journey by sports car determine all velocities of the car by using slope.



2. A particle in a magnetic field moves as follows in the graph below. Determine the velocity of each movement.



3. A student decides to “walk a graph.” Determine his speed for each section.



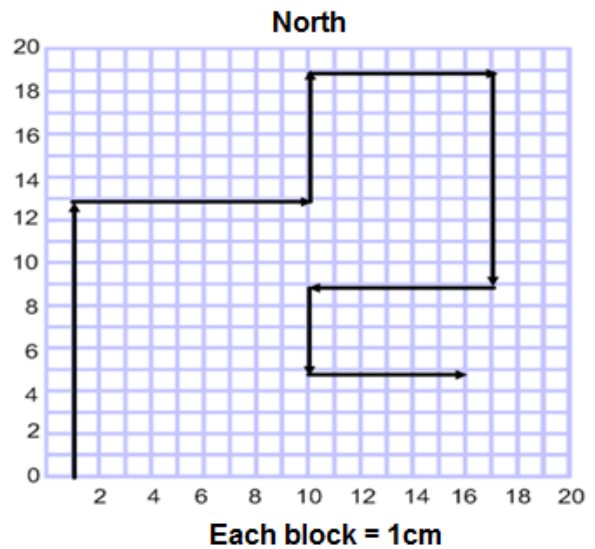
Day 2: On your OWN PAPER, work out the following problems. SHOW YOUR WORK

$S = d/t$ $V_f = V_i + at$ $V_f^2 = V_i^2 + 2ax$

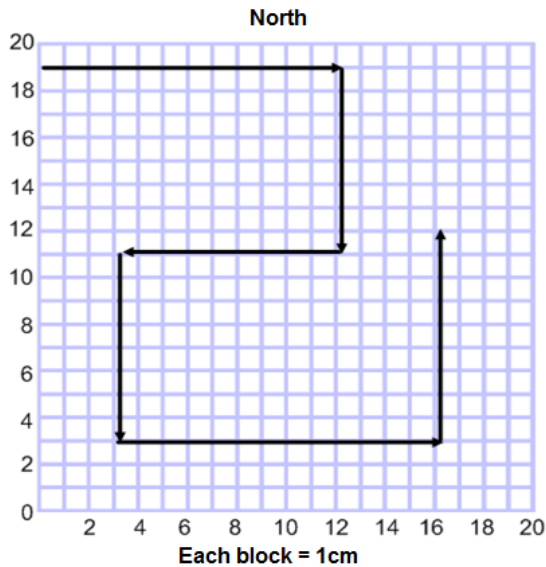
1. A car moved 80 km to the South. What is its displacement?
2. A car moved 60 km East and 90 km West. What is the distance?
3. A car moved 60 km East and 90 km West. What is the displacement?
4. What is the average speed of a car that moved 60km in 3 hours?
5. How far will a car travel in 25 min at 12 m/s?
6. How far will a car travel in 2 hours at 20 m/s?
7. If a car is traveling at 40 m/s and slows to 10 m/s in 5 seconds in order to avoid hitting a bike rider, what is the acceleration of the car?
8. If a car accelerates from 3 m/s to 12 m/s in 3 seconds, what is the car's average acceleration?
9. You started to run at 10 m/s when you left your house and you arrived at school 30 minutes later. Assuming that your average acceleration was 30 m/s², how fast were you running when you arrived?

Day 3: On your OWN PAPER, answer the following problems. SHOW YOUR WORK

1. Determine the distance and displacement of the graph below.



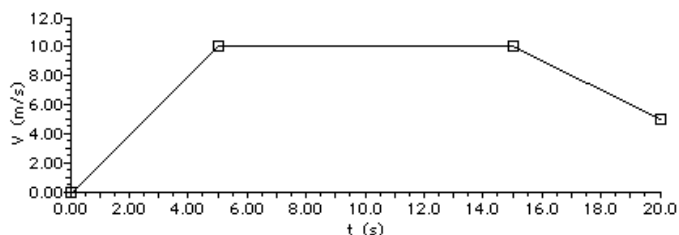
2. Determine the distance and displacement of the graph below.



3. Explain the difference between distance and displacement
 4. A car travels 90 meters due north in 20 seconds. The car turns around and travels 40 meters due south in 10 seconds. ~~Create a sketch of the cars motion and~~ determine the distance and displacement of vehicle.

Day 4: On your OWN PAPER, work out the following problems. SHOW YOUR WORK

- Create a position-time, velocity-time, and acceleration-time graph representing the motion of an object which is ... Label each line with the corresponding letter (e.g., "a", "b", "c", etc.)
 - at rest.
 - moving in the positive direction with constant speed
 - moving in the negative direction and speeding up
 - moving in the positive direction and slowing down
 - moving in the positive direction at a constant speed (slow) and then later fast at constant speed
 - moving with a negative velocity and a negative acceleration
 - moving with a negative velocity and a positive acceleration
- The velocity-time graph below depicts the motion of an automobile as it moves through Glenview during rush hour traffic.



- a. Determine the displacement of the automobile during the following intervals of time: 0 – 5s, 5 – 15s, and 15 –

- 20s.
 b. Determine the velocity of the automobile at the following instants in time: 3 s, 8 s, and 17 s.
 c. Determine the acceleration of the automobile during the following intervals of time: 0 – 5s, 5 – 15s, and 15 – 20s.
 d. Using complete sentences and the language of physics, describe the motion of the automobile during the entire 20.0 seconds. Explicitly describe any changes in speed or direction which might occur; identify intervals of time for which the automobile is at rest, the automobile is moving with constant speed, or the automobile is accelerating.
 e. Supposing the automobile has an oil leak, demonstrate your understanding of its motion by drawing an oil drop diagram for the 20.0 seconds of motion. Divide the diagram into three distinct time intervals (0.0 - 5.0 seconds, 5.0 - 15.0 seconds, 15.0 - 20.0 seconds).

Day 5: On your OWN PAPER, work out the following problems. SHOW YOUR WORK

- Determine the acceleration (in m/s^2) of an object which ...
 - moves in a straight line with a constant speed of 20.0 m/s for 12.0 seconds
 - changes its velocity from 12.1 m/s to 23.5 m/s in 7.81 seconds
 - changes its velocity from 0.0 mi/hr to 60.0 mi/hr in 4.20 seconds
 - accelerates from 33.4 m/s to 18.9 m/s over a distance of 109 m
- Determine the magnitude of the displacement (in meters) of an object which ...
 - moves from Hither to Yon (with an average speed of 28.0 m/s) and then back to Hither (with an average speed of 28.0 m/s) if both the forward and the return trip take 46 minutes each.
 - moves at a constant speed of 8.30 m/s in a straight line for 15.0 seconds.
 - decelerates at a rate of $-4.35 m/s/s$ from a speed of 38.1 m/s to a speed of 17.6 m/s
 - accelerates from rest at a rate of $3.67 m/s^2$ for 12.1 seconds
 - is moving at 12.2 m/s and then accelerates at a rate of $+1.88 m/s^2$ for 17.0 seconds