Distance Time Graph

Make a graph of the distance traveled (y axis) and the time (x axis).

Time (sec)	Runner 1 (meters)	Runner 2 (meters)	Runner 3 (meters)
1	1	2	3
2	2	4	6
3	3	6	9
4	4	8	12
5	5	10	15
6	6	12	18
7	7	14	21
8	8	16	24
9	9	18	27
10	10	20	30
11	11	20	33
12	12	20	36
13	13	20	39
14	14	20	42
15	15	20	45
16	16	20	48
17	17	22	51
18	18	24	48
19	19	26	45
20	20	28	42
21	21	30	39
22	22	32	36
23	23	36	33
24	24	42	30
25	25	48	27
26	26	55	24
27	27	65	21
28	28	45	18
29	29	20	18
30	30	0	18

Questions:

1. For each runner, calculate the speed (distance ÷ time) for the first 10 seconds.

2. Which runner(s) stopped and rested, and at what time (seconds)?

3. Which runner never turned around and headed back?

4. Which runner made it all the way back to the starting point?

5. Which runner must have gotten a ride back to the starting point? Explain. Calculate each runners speed in miles per hour for the last 4 seconds (seconds 27-30). (Hint: you will need to convert m/s to mph. **1 meter is 0.00062 miles**).

Use your notes and the formula triangle to solve the following. Use correct units!!!!

6. Which runner kept a constant speed throughout the entire 30 seconds?

7. A car travels 250 miles to Salt Lake City in 4 hours, what is the cars speed? What is the car's velocity?

8. If a plane travels at a constant speed of 450 mph for 6 hours, how far did it go?

9. If a car travels 1,050 miles at a speed of 63 mph, how long would it take?

10. A car covers a distance of 77 meters in 2.1 seconds on Holmes heading toward the Home Depot from 17th street. What was its speed in miles per hour (mph)? What is its velocity in mph?

11. Label your graph with an "**A**" where the runner(s) have stopped.
12. Label your graph with a "**B**" where the runner(s) are going back to where they started.
13. Label your graph with a "**C**" at all the points where the runner's speed is constant.

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