Velocity fake test

Do the following math problems… 2 marks for the drawing, 1 for stating the formula and 2 for the solution.

1. An archer not located at the reference point fires an arrow in the negative direction at t=0. It passes a marker 4 m away from the origin 2 s later and continues on to strike a t=7s. If the arrow travels at a constant velocity of 60 m/s in the negative direction, what is the position of the target?
2. A runner starts 5 m north of a reference point 9 s after a stopwatch is started. If the runner is running south at a constant velocity of 6 m/s, how far away from the reference point will they be 14 seconds after the stopwatch was started?
3. 5 seconds after a stopwatch is started, a dog standing 14 m north of a reference point starts running south at a constant velocity of 30 m/s. At what time does the dog get 20 meters south of the reference point?

1. A relay runner starts 20 m west of a timing station running at 10 m/s [E], some time after the clock is started. If the runner crosses the finish line 20 m east of the timing station with a time of 6 s, at what time did he start running?
2. Three seconds before a stopwatch is started, a runner starts running from 6 m west of a reference point. If the runner gets to 13 m east of the reference point when the stopwatch reads 4 s, what was the runner’s velocity?

Graph:

1. Graph the following data using the following rubric
   1. Give a descriptive title that doesn’t use “vs.” (1)
   2. Label the axis with correct units (1)
   3. Select a scale for each that uses AT LEAST 2/3 of the graph (1)
   4. Show the scale for each (x and y) on the graph in a legend (1)
   5. Plot the points and draw a best fit line (2)
   6. Use the LINE (not data points) to calculate the velocity, showing all work (4)

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| Calculating the velocity of a sprinter | |
| **time (in s)** | **pos (in m E)** |
| 0 | 0 |
| 1 | 11 |
| 2 | 22 |
| 3 | 33 |
| 4 | 44 |
| 5 | 55 |