

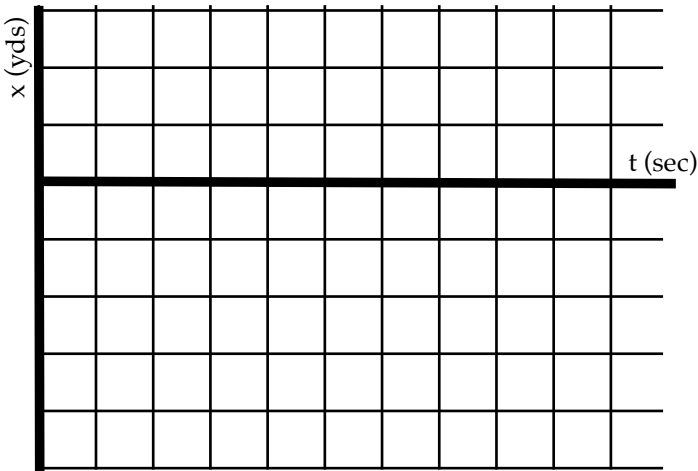
Write the equation that goes with each scenario: Assume North and East are positive.

1.) Jamie is walking South back from the bath house and is wondering why I am sitting in my lawnchair and on my laptop while we are supposed to be camping. Assuming I am her origin and she starts off 200 feet North of me and is moving toward me at 3.0ft/sec., what is the equation of her motion from my point of view?

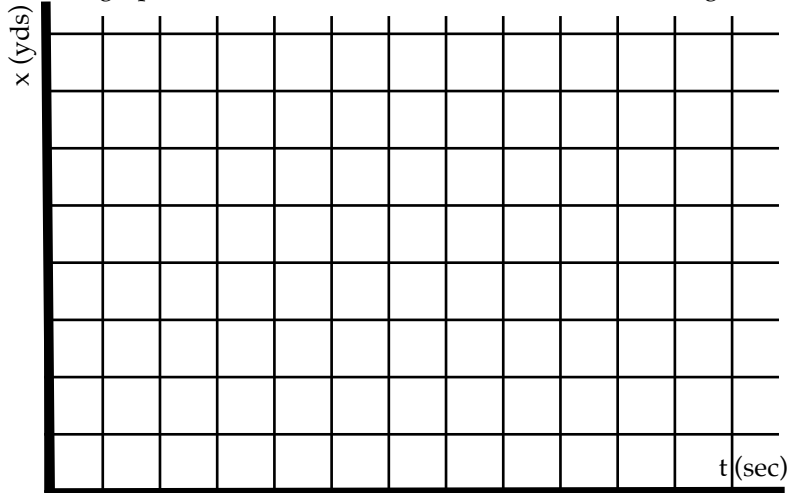
2.) A little feral kitty decided to stay with us while we are camping. Let's say the origin is the campfire and the kitty starts 5.0m South of the campfire and runs towards the campfire. If it moves 4.0m in 3.0s, what is it's equation from the standpoint of the fire?

3.) Pepper walks pretty slow these days when she is on her lease. What is the equation of her movement RELATIVE to me who is walking her on a long lease: I am walking North at 0.25m/s . She is walking South at 0.40m/sec.

4.) I see a fishing boat traveling North on the lake. The marina is 120 yards south of it and it is moving at 8.0yds/sec. Write the equation for it's motion from the standpoint of the marina: Plot the motion:



5.) Jamie does a little shopping at Utica Square in Tulsa. I park 30 feet North of Chicos and she walks from the car to Chico's front door in 20 seconds. Write the equation and plot the graph of her walk with Chico's front door as the origin.



Here's a couple of Black Kinematics Problems:

6.) There's a train going East towards Tulsa down the tracks about 1/4 a mile away. When the train is directly South of me I follow one of the boxcars with my finger on my outstretched arm. If my arm is sweeping out an arc at 0.05 s^{-1} , what is my estimated speed of the train in miles per hour?

7.) Sitting on my lawnchair, I notice a 747 flying high overhead. I straighten my arm and follow the jet's progress with my finger. My arm rotates through about $\pi/3$ radians in one minute. Assuming a typical speed for a 747 is 550mph, how far above my head is the jet traveling?