

Phys11 Pursuit Problem W.S.-90

At $T = 0.0$ s and $D = +2.0$ m, a mouse starts to run in a straight line with a velocity of $1/2$ m/s (+X direction). A cat starts to chase the mouse at $T = 0.0$ s from an initial displacement of $D = -8.0$ m. Sketch the graphs of both the cat and the mouse. The velocity of the cat is $4/3$ m/s. ($D(m)$ is Y-axis, $T(s)$ is X-axis)

- 1) Give the equation of motion for : a) the cat, b) the mouse.
- 2) At what time and displacement will the cat catch the mouse?

