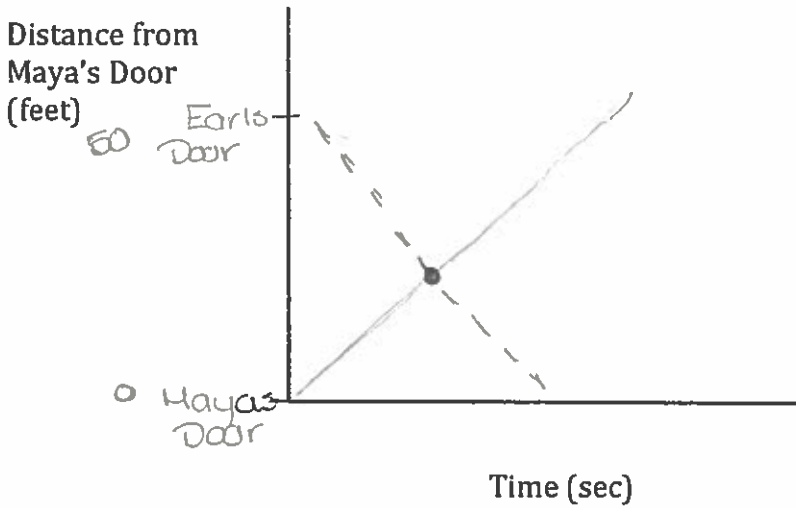


Example 1 - Sketching Two Elevation-vs-Time Relationships on the Same Graph

Maya and Earl live at opposite ends of the hallway in their apartment building. Their doors are 50ft apart. Each starts at her or his own door and walks at a steady pace toward each other and stops when they meet. Sketch both of their graphing stories on the same graph.



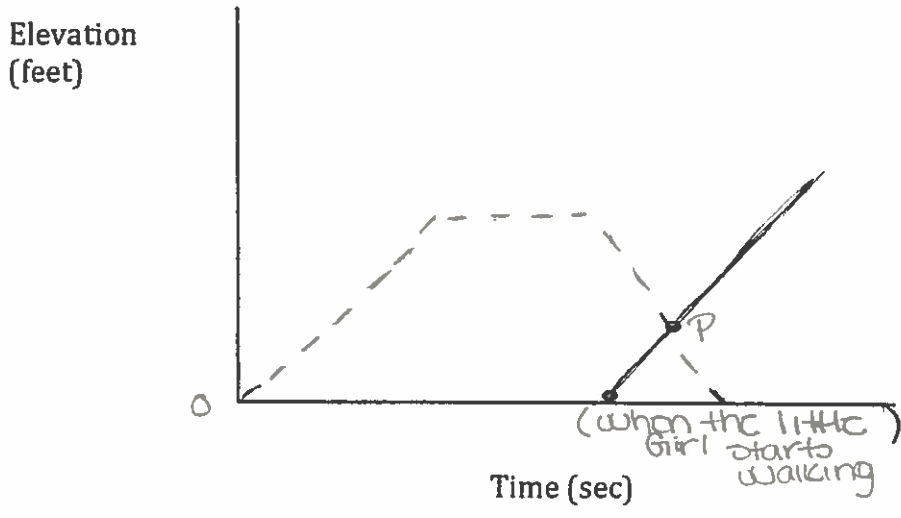
Dotted line: Earl
Solid line: Maya

a. What happens on the graph when Maya and Earl meet in the hallway?

Intersection point
(Lines meet up)

Example 2 - Video of Man & Girl on Stairs

The video shows a man walking up and then back down a flight of stairs. On his way down, a girl starts walking up the stairs. Graph the man's elevation on the stairway vs time in seconds. Add the girl's elevation to the same graph.



Dotted line: Man
Solid line: Girl

a. How did you account for the fact that the two people did not start at the same time?

Started the girl's line later on the time axis

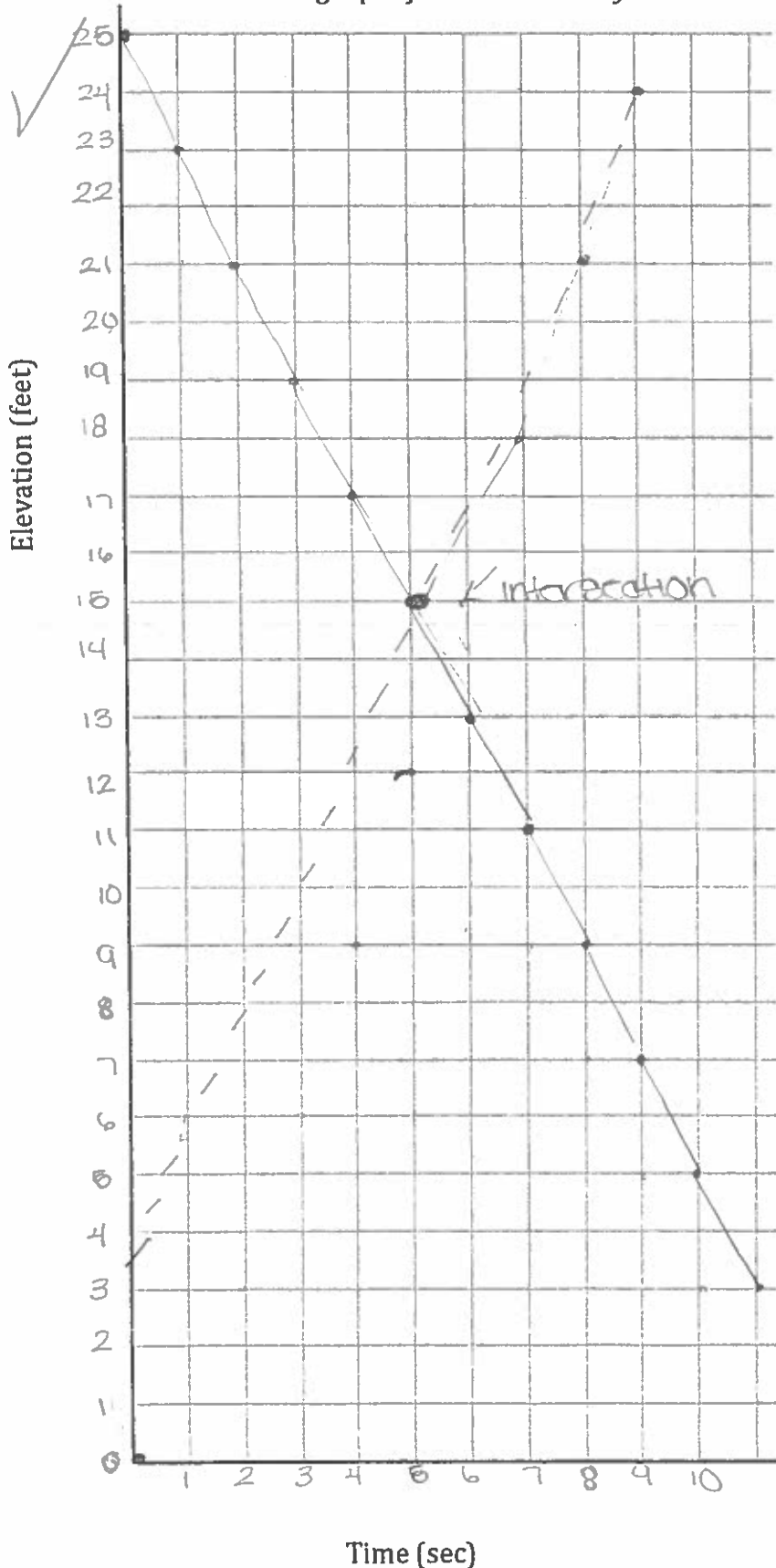
b. Label the intersection point, P. Suppose P is at (24, 4). What do these coordinates mean?

(x,y)
(Time, Elevation)

@ 24 secs, they meet up @ 4ft high.

Example 3 - Precisely Sketching Two Elevation-vs-Time Relationships on the Same Graph

Duke starts at the base of a ramp and walks up at a constant rate. His elevation increases by 3ft every second. Just as Duke starts walking up the ramp, Shirley starts at the top of the same 25ft-high ramp and begins walking down the ramp at a constant rate. Her elevation decreases by 2ft every second. Draw the elevation-vs-time graphs for Duke & Shirley over a 10-sec period on the same graph.



Dotted line: Duke
Solid line: Shirley

a. What is the ordered pair for Duke's starting point?

$(0, 0)$

b. What is the ordered pair for Shirley's starting point?

$(0, 25)$

c. After 3 seconds, what is the difference in their elevation?
Explain how you know.

Shirley: $(3, 19)$
Duke: $(3, 9)$
 $19 - 9 = 10$
10 ft

d. What are the coordinates of the point of intersection of the two graphs? What do these coordinates mean?

After 5 sec
 $(5, 15)$ they were both @ 15 ft