Physics 2311 – Physics I, Week 2
Dr. J. Pinkney

Outline for W2, Day 1 (Wed)
Attendance
Error Prop. Example (area of block)
Motion in 1-dimension
  Position, Distance, displacement,
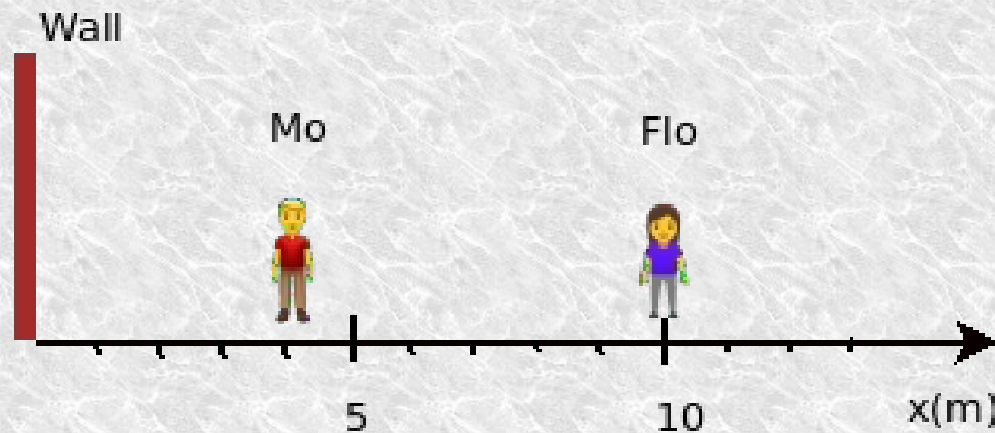 Speed, velocity

Homework (Due Mon)
Ch. 2 Prob. 2,3,5-7,14,23-27,35-38,53-56

Notes: Hwk Ch. 1 mean= /10, checked , ,MQ ,
    Astro Club tonight 9 pm SA116.
    Tutoring on Thursdays 6-8 SA116.

Motion in 1-Dimension

Mo and Flo are standing conveniently on a number line, which has its origin, x=0, where the floor meets a wall.
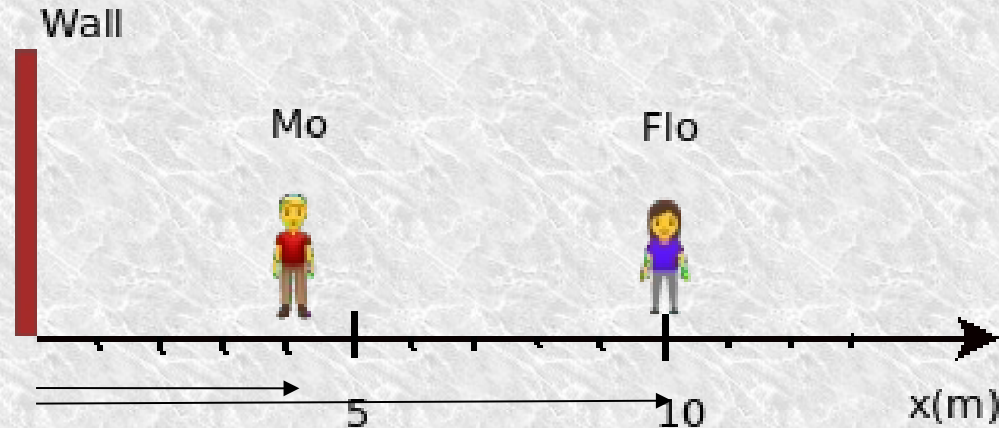

Relative to this origin, we can quantify Mo and Flo's …

Position: the distance away from a reference point.
- Symbols for position: x, y, z
- Positions for Mo and Flo: x_{mo} = 4 m   and x_{flo} = 10 m.

Motion in 1-Dimension (cont.)

Position vector: a vector pointing from a reference point to an object of interest.
- Symbols for position vector: **x**, **r**
- For Mo and Flo we have $\mathbf{x}_{mo} = 4\,\hat{\imath}\,m$ and $\mathbf{x}_{flo} = 10\,\hat{\imath}\,m$.
- The position vectors for Mo and Flo are shown under the numberline.

The **distance** between two objects can be defined as the magnitude of the difference between their positions.

$$d_{flo\ to\ mo} = |x_{mo} - x_{flo}| = |4 - 10| = 6\ m.$$

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Outline for Day W2,D2

Motion in 1-dimension (cont.)

   Average speed, velocity

   Instantaneous speed, velocity

   Acceleration

     Equations of uniform acceleration

Homework (Due Mon)
Ch. 2 Prob. 2,3,5-7,14,23-27,35-38,53-56

Notes: Try practice quizzes online.

   Quiz 1 on Monday. Mostly Ch 1, and part of Ch. 2 (definitions of l,d,s,v,etc).

Motion in 1-Dimension

More "Mo and Flo" examples on black board.

Instantaneous speed, s

Instantaneous velocity, **v** or **v**$_{inst}$

Graphing x vs t

   v$_{inst}$ is slope of x vs t

Outline for Day W3,D1

Quiz 1 (~12 min)

Motion in 1-dimension (cont.)

  Graphs of position and velocity

  Acceleration

      Example problems

      Equations of Motion

      Equations of uniform acceleration

Homework (Due Today <3pm)

Ch. 2 Prob. 2,3,5-7,14,23-27,35-38,53-56

  Next: Ch. 3 P. 1,3,6,7,10,11,19,20,23,24,

        32,33,37,38,39 Due next Mon.

Notes: Lab this week: Graphs and Motion

Physics 2311 – Physics I, Week 3
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Outline for Day W3,D2
Return Quiz 1 (mean=5.8/9)
Motion in 1-dimension (cont.)
   Acceleration
      Example problems
   Equations of Motion
   Equations of uniform acceleration

Homework
Ch. 3 P. 1,3,6,7,10,11,19,20,23,24,
     32,33,37,38,39 Due next Mon.

Notes: Ch. 2 hwk mean=9.7/10. #7, #26.
    See "NEW STUFF"

Outline for Day W3,D3

Motion in 1-dimension (cont.)

   Equations of uniform acceleration

     Example problems

   Vector basics

   2D kinematics with vectors

   Projectile Motion

Homework

Ch. 3 P. 1,3,6,7,10,11,19,20,23,24,

     32,33,37,38,39 Due Mon.

Notes: Last day to drop without "W"

     Observatory 8-10 pm (optional)