

Problem Assignments for Unit 2

Unless otherwise indicated, problems are from Wolfson. “**Supp**” refers to chapters in the supplementary reading and “A22” refers to the additional problems that are at the beginning of the supplementary reading.

Assigned Problems for Wednesday, September 25

A26, A27, A28; **CH 9**: 4, 16, 19, 25, 29, 57, 61

Notes: For **CH 9 #61**, the two masses are heading in the same direction before the collision. (Yes, it says “head-on collision” but the answer in the back assumes that they are initially going in the same direction with one catching up to the other and then colliding.)

Answers: **CH 9 #16** $-10.6\hat{i} - 2.8\hat{j}$ m/s.

Assigned Problems for Friday, September 27

A30; **Supp CH 2**: 1, 2, 5, 6, 7, 8, 10, 12, 13, 14;

Hand-In Set #4 Due Monday, September 30, 4:30 pm

A29, A74; **CH 9**: 24, 30, 56; A32; **Supp CH 2**: 4, 9, 11, 15;

Assigned Problems for Wednesday, October 2

A33, A34; **Supp CH 3**: 1, 4, 7, 8, 10, 11. Also optional (and very challenging) Supp 2-6

Notes: For **Supp CH 3 #7**, note that event B is the flare occurring on the Sun, NOT the flare being observed at the Earth.

Assigned Problems for Friday, October 4

A35; **Supp CH 4**: 2, 3, 6, 7, 10, 14, 20, 16, 17, 18

Notes: We suggest trying **Supp CH 4 #20** after **#14**.

Hand-In Set #5 Due Monday, October 7, 4:30 pm

Supp CH 3: 2, 3, 5, 9; A36; **Supp CH 4**: 4, 9, 11, 13, 15;

Assigned Problems for Wednesday, October 9

A37, A38, A39; **Supp CH 5**: 1, 2, 5, 7, 10, 11;

Assigned Problems for Friday, October 11

A40, A42, A66, A89; **CH 10:** 3, 10, 16a, 21, 35, 57, 61

Notes: For **CH 10 #21**, calculate the torque when the mouse is at the end, not while running outward.

Answers: **CH 10 #3** no; **#10** it doesn't go up as high on the frictionless slope (can you explain why?); **#16a** 12.1 min.

Assigned Problems for Wednesday, October 11

No new problems (since right after break), but there will be review and graded activities in problem session.

Assigned Problems for Friday, October 18

A44a, A75; **CH 11:** 11, 15a and b, 17, 21, 23, 25, 58, 55

Answers: **CH 11 #58** (a) 140 rpm, (b) 21%.

Hand-In Set #6 Due Monday, October 21, 4:30 pm

Supp CH 5: 3, 8, 9, 12; A41, A67; **CH 10:** 20, 58, 62; A44bc, A45, A93; **CH 11:** 24, 40