Astronomy 160b, 2007 — information for test on Feb. 8, 2007

1. The test is **open book.** You may consult any notes or readings you wish. However **no electronic devices, including laptops and calculators** are allowed.

2. In the test, a hypothetical future discovery will be described — you'll be asked to discuss some relevant issues and carry out some calculations. Between 1/2 and 2/3 of the test will be calculation based. For the rest, you should definitely be familiar with the radial velocity method and the transit method of finding and studying extra-solar planets. There are useful sources on the websites linked from the course website. We will likely discuss the astrometry method in class Tuesday, and there may be a question on that, but you will *not* be responsible for the microlensing method, since we probably won't get to it in the lectures.

3. If you have questions, you can ask them in section on Monday, in office hours, or on the classes discussion forum. There will also be a review session Wednesday evening at 9:15pm at a location TBD. If none of these things works out for some reason, please feel free to e-mail us to set up other times to meet.

4. We have posted last year's test, along with an answer sheet, in the resources section of the classes server. Note that question 3 is about something we haven't covered this year, and there is no question 4.

5. For your convenience, the following information will be printed on the test:

1 year $= 3 \times 10^7$ seconds		1 A.U. $= 1.5 \times 10^{11}$m
$1M_\odot = 2 \times 10^{30}$ kg	$1M_J = 10^{-3}M_\odot$	$1M_E = 3 \times 10^{-6}M_\odot$
$P_J \approx 11$ years		$a_J \approx 5$ A.U.
$c = 3 \times 10^8$ m/s		$G = 7 \times 10^{-11}$ in mks units
1 parsec $= 3 \times 10^{16}$m		1 radian $= 2 \times 10^5$ arcseconds
$a^3 = P^2GM/(4\pi^2)$		$\alpha = D_2/D_1$
$V = 2\pi a/P$		$V_* M_* = V_p M_p$
$\Delta\lambda/\lambda = V_R/c$		$\rho = M/(4\pi R^3/3)$