

Name:

Matrikel:

Stellar Astronomy and Astrophysics SS21:

Test Exam

Useful quantities in cgs units:

gravitational constant	$G = 6.7 \times 10^{-8} \text{ cm}^3 \text{ g}^{-1} \text{ s}^{-2}$
Boltzmann constant	$k = 1.4 \times 10^{-16} \text{ erg K}^{-1}$
proton mass	$m_p = 1.7 \times 10^{-24} \text{ g}$
proton charge	$e = 4.8 \times 10^{-10} \text{ esu} = 4.8 \times 10^{-10} \text{ g}^{1/2} \text{ cm}^{3/2} \text{ s}^{-1}$
speed of light	$c = 3 \times 10^{10} \text{ cm s}^{-1}$
electron mass	$m_e = 9.1 \times 10^{-28} \text{ g}$
electron charge	$e = 4.8 \times 10^{-10} \text{ esu}$
mean density of Sun	$\bar{\rho} = 1.4 \text{ g cm}^{-3}$
parsec	$1 \text{ pc} = 3.1 \times 10^{18} \text{ cm}$
solar mass	$1 M_{\odot} = 2.0 \times 10^{33} \text{ g}$
solar luminosity	$1 L_{\odot} = 3.8 \times 10^{33} \text{ erg s}^{-1}$
solar radius	$1 R_{\odot} = 7.0 \times 10^{10} \text{ cm}$

Instruction:

- Please use your own paper or ipad/tablet to answer the questions. We recommend to write your name on each sheet of paper that you use.
- Please combine this cover page with the pages you use to answer the exam questions into one single PDF.
- Please upload this PDF via the moodle platform. If you encounter problems, you can also upload your solution PDF to heiBOX via this link: XYZ...

Hints: If calculations are performed, orders of magnitudes are fully sufficient. The use of pocket calculators or smart phones is not permitted.

It is a good idea to start with those problems that you can easily solve. No lengthy explanations are necessary. Short but clear answers are sufficient.

Task	1	2	3	Σ
Points	1	2	3	6
Achieved				

Name:

1 What date is it:

Please let us know today's date. (1 point)

2 Time:

- a) What is the current hour? (1 point)
- b) What is the current minute? (1 point)

3 Weather:

Please describe today's weather. (3 points)

- a) Is it rainy?
- b) Does the sun shine?
- c) Is there snow outside?