

## Numbers to memorize

|                                |                                                                    |
|--------------------------------|--------------------------------------------------------------------|
| 1 parsec (pc)                  | $3.086 \times 10^{18}$ cm                                          |
| 1 astronomical unit (AU)       | $1.496 \times 10^{13}$ cm=(1 parsec)/206,265                       |
| 1 radian                       | 206,265 arcsec                                                     |
| 1 year                         | $3.156 \times 10^7$ sec $\simeq \pi \times 10^7$ sec (within 0.5%) |
| solar mass $M_{\odot}$         | $1.988 \times 10^{33}$ g                                           |
| gravitational constant $G$     | $6.674 \times 10^{-8}$ (cgs)                                       |
| $GM_{\odot}$                   | $1.327 \times 10^{26}$ (cgs)                                       |
| 1 km s <sup>-1</sup>           | 1 parsec per million years (actually 1.023)                        |
| 1 arcsec/yr                    | 4.74 km s <sup>-1</sup> at 1 pc                                    |
| solar absolute magnitude $M_V$ | 4.83                                                               |
| solar luminosity $L_{\odot}$   | $3.85 \times 10^{33}$ erg s <sup>-1</sup>                          |
| age of the universe            | $1.37 \times 10^{10}$ yr                                           |