Astro HW 1

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August 29, 2025

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1.1

- A) Collaboration and working with fellow students is encouraged, however, work still must be that of the individual, and copying answers is not allowed

- B) Copying from others, cheating, enabling others to cheat, all are violations of academic honesty

- C) Because they are the words/work of someone other than myself

1.2

$$tan^{-1}(\frac{61}{384}) \approx 9.0\deg$$

$$9.0 * \frac{\pi}{180} \approx .16rad$$

4

1.3

$$G = 6.67430 * 10^{-11}m^3kg^{-1}s^{-2} = 39.5AU^3M_\odot^{-1}yr^{-2}$$

$$6.67430 * 10^{-11}m^3kg^{-1}s^{-2} * 1.989 * 10^{30}kgM_\odot$$

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$$6.67430 * 10^{-11}m^3s^{-2} * 1.989 * 10^{30}M_\odot * (1.496 * 10^{11})^3 AU^3m^{-3}$$

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$$6.67430 * 10^{-11} s^{-2} * 1.989 * 10^{30} M_\odot * (1.496 * 10^{11})^3 AU^3 * (3.154 * 10^7)^2 s^2 y^{-2}$$

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$$= 39.5 AU^3 M_\odot^{-1} yr^{-2}$$

1.4

a)