

Homework Assignment 3

ASTR4201, Fall 2020

Corresponds to Chapter 3 of "To Build a Star" (TBS) by E.F. Brown

1. TBS exercise 3.1 Team: 1 Lead: Britt
2. TBS exercise 3.2 Team: 2 Lead: Sam
3. TBS exercise 3.3 Team: 3 Lead: Harshil
Hint: Consult solutions for linear first order differential equations.
4. TBS exercise 3.4 Team: 4 Lead: Gula
Hint: Consult the solution for common first order differential equations.
5. TBS exercise 3.5 Team: 1 Lead: Anthony
6. TBS exercise 3.6 Team: 2 Lead: Michael
7. TBS exercise 3.7 Team: 5 Lead: Justin
Hint: Chapter 1 briefly discussed the radiative energy density, which is the total radiative energy divided by the volume.
8. TBS exercise 3.8 Team: 5 Lead: Robert
9. TBS exercise 3.9 Team: 3 Lead: Josh
10. TBS exercise 3.10 Team: Lead: Gavin
11. TBS exercise 3.11 Team: 3 Lead: Ryan
12. TBS exercise 3.12 Team: 2 Lead: Quinn
Hints: For the first part, keep in mind that $P_0(\mu)=1$ and that any function is equal to itself multiplied by 1. For the second part, trigonometric identities and u-substitution are your friend.
13. TBS exercises 3.13-14 Team: 4 Lead: Jacob
Hints: Consult Boxes 3.1 and 3.2.