

Physics 136c, Week 7: Stars and Black Holes

(Dated: May 17, 2012; due May 23, 2012)

The maximum number of points you can get for this assignment is **50**, although you could choose to do problems that worth more than 50 points.

This week we covered Chapter 25 of Blandford and Thorne (BT).

1. **Gravitational Redshift of Light From a Star's Surface.** Exercise 25.4 of BT [15 Points]
2. **Embedding Diagram for Star with Uniform Density.** Exercise 25.7 of BT [15 Points]
3. **Implosion of the Surface of a Zero-Pressure Star.** Exercise 25.8 of BT [20 Points]
4. **Gore at the Singularity.** Exercise 25.9 of BT [15 Points]
5. **Penrose Process, Hawking Radiation, and Thermodynamics of Black Holes.** Exercise 25.13 of BT [30 Points]