Name: _____

Date: _____

Astron 211 OOM #10
Heat

OOM Policy: You can work in pairs or groups of 3 if desired. You can consult class notes and books — no phones or computers. Make sure you are clear about the process you use to solve the problems: partial credit will be awarded. Always include units.

Assume that radioactive elements produce about 10^{-4} W/kg through decay, and that they are present at a concentration of about 10^{-7} in the Earth's mantle.

1. What would be the total amount of energy generated by the Earth's radioiosotopes?

2. How much power per square meter?

3. How does that compare with the energy from solar radiation?

4. Do you think the energy from radioisotopes was higher or lower in the past?