

$$c = 3.0 \times 10^8 \text{ m/s}$$

1. What is the escape velocity of the sun?
2. What radius would the mass of the sun have to be condensed to in order to create a black hole?
3. What is the escape velocity of the Black Hole Sun?
4. What is the gravitational potential energy at the surface of the earth? (Use U)
5. What would the radius of the earth have to be in order to create a black hole?
6. What is the gravitational potential energy at a distance r_e from the center of this black hole? (r_e is the radius of the earth)
7. What would the mass of a 1-cm radius piece of matter have to be in order to create a black hole?