ASTR430 Homework #3
Due Thursday October 20, 2023

1. For this question, you will use the *Solar System Collisions* website at http://janus.astro.umd.edu/astro/impact
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a) Investigate collisions with the planets Mars, Venus, and Earth. Determine the maximum-sized rocky object that is destroyed in the planet's atmosphere to two significant figures (e.g. 4.3 m or 43 km). Use the default collision speed of 20km/s.

b) How much energy is released by the largest airbursts on each planet (in Megatons)? How often does this happen?

c) What are the smallest craters that can be produced on these planets?

d) Saturn's satellite Titan has an atmosphere about ten times thicker than Earth's. What sorts of impact craters might you expect to find on its surface?

2. Problem 8-3 from the textbook.

2. Problem 8-4 from the textbook.