



All bodies produce gravity. The more mass a body has, the more gravity it creates.

It is also true that the smaller you make a body by compressing it, the more intense its gravity is at its surface.

Suppose you made a body that had such an intense gravity that even light could not escape from it.

That body would be called a **black hole**, because anything falling into it, even light, could never escape from it again.

Black holes can come in all imaginable sizes. Suppose that some aliens could turn the planets and moons in our solar system into black holes. How big would they be?

On a black piece of paper, use a ruler and a compass to make circles that are as large as the black holes mentioned in each of the following problems.

Cut these circles out, and make a black hole mobile of the smaller bodies in the solar system!

**Problem 1** - Mercury is a black hole with a radius of 0.5 millimeters.

**Problem 2** - Venus is a black hole with a radius of 7 millimeters

**Problem 3** - Earth is a black hole with a radius of 9 millimeters

**Problem 4** - The moon is a black hole with a radius of 0.1 millimeters

**Problem 5** - Mars is a black hole with a radius of 1.0 millimeter

**Problem 6** - Pluto is a black hole with a radius of 0.02 millimeters

The giant planets will need black circles that are much bigger!

**Problem 7** - Jupiter is a black hole with a radius of 280 centimeters

**Problem 8** - Saturn is a black hole with a radius of 83 centimeters

**Problem 9** - Uranus is a black hole with a radius of 13 centimeter

**Problem 10** - Neptune is a black hole with a radius of 15 centimeter

