Name _____

Can We See Black Holes, or Are They Invisible?

Multiple Choice Questions

1. What is the singularity of a black hole?

A) A boundary beyond which nothing can escape.

B) A point of infinite density at the black hole's core.

C) A region where stars are formed.

D) A layer of gas and dust around a black hole.

2. How can astronomers detect the presence of a black hole indirectly?

A) By observing the color of the event horizon.

B) By detecting visible light emitted by the black hole.

C) By studying the motion of nearby celestial objects influenced by the black hole's gravity.

D) By capturing images of the black hole's surface.

3. What is gravitational lensing?

A) The bending of light by massive objects.

B) The formation of an accretion disk around a black hole.

C) The emission of X-rays from a black hole.

D) The process of creating a virtual telescope.

4. How can radio telescopes help scientists study black holes?

A) By capturing images of black holes.

B) By directly detecting black hole emissions.

C) By observing the motion of stars influenced by black holes.

D) By detecting radio waves emitted by black hole jets.

5. What made the historic image of a black hole in 2019 possible?

A) The use of visible light telescopes.

B) The discovery of a new type of black hole.

C) The creation of a virtual telescope using VLBI.

D) The direct observation of the singularity.