Name _____

Black Holes' Cosmic Influence: Effects on Nearby Stars and Planets

Multiple Choice Questions

1. What is one way black holes affect nearby stars and planets?

A) Emitting visible light

B) Altering their chemical composition

C) Changing their gravitational pull

D) Disrupting their orbits

2. What happens when a star experiences a Tidal Disruption Event (TDE) near a black hole?

A) The star explodes in a supernova.

B) The star's material is torn apart and accreted by the black hole.

C) The star's orbit becomes more stable.

D) The star turns into a white dwarf.

3. What is an accretion disk, and how does it impact nearby celestial bodies?

A) It's a spherical cloud of gas that creates X-rays.

B) It's a flattened structure of matter that emits X-rays.

C) It's a protective shield around a star.

D) It doesn't affect nearby objects.

4. What are tidal forces in the context of black holes?

A) Gentle gravitational forces exerted by black holes.

B) Strong magnetic fields produced by black holes.

C) Forces caused by the rotation of black holes.

D) Gravitational forces that stretch and compress objects.

5. Why are Tidal Disruption Events (TDEs) important for astronomers?

A) They create new stars.

B) They produce visible light.

C) They provide insights into black hole properties.

D) They lead to the formation of planets.