3.

Event horizon is a region which reaches its limit in black hole where the escape velocity should be greater than speed of light. This condition is impossible to satisfy hence no bodies inside event horizon can never escape the event horizon. It is considered point of no return because once the object enters in, theres virtually no possible way of getting out of it just like how blood flows in only one way due to one- way valves present in the heart. It cannot flow back in normal conditions. Due to extreme gravity, there is gravitational time dilation where in which the time fabric is stretched to its maximum and time seems to have “frozen” from outside point of view.

2.

Advantages of radio telescope:

* They can work virtually all the time. They don’t depend on factors like temperature ,humidity, etc ideally speaking.
* it broadens the capacity to find other celestial bodies.

Disadvantages of radio telescope

* Needs complex systems to build as radio waves can be hard to detect and needs precision.
* Limited areas.

Advantages of optical telescope:

* More accessible
* Great imaging power

Disadvantages of optical telescope:

* Cant work in unfavourable conditions ie it can get affected by clouds, humidity,dust,etc
* Limited time frame for optimal usage.

1.

Angular resolution = 1.22 \* wavelentgth of raditation / diameter of lens

= 0.671 x 10-7 rad