

10 (a) Fill in the gaps in the description of how an accretion model explains the formation of the Solar System.

The planets nearest the Sun are small and

The planets furthest from the Sun are large and

All the planets were formed when a cloud of gas and dust collapsed due to

.....

The rotation of material in the cloud forms an

[4]

(b) The time taken for light to travel from the Moon to the Earth is 1.3s.

Calculate the distance of the Moon from the Earth. Give your answer in m.

distance = m [3]

(c) The Whirlpool galaxy is 2.3×10^7 light-years from the Earth. The current value of the Hubble constant is 2.2×10^{-18} per second.

Calculate the speed at which the Whirlpool galaxy is moving away from the Earth.

speed = [3]

[Total: 10]