

**Question 9** [ 7 marks]

There are two machines available for cutting corks intended for use in wine bottles. The first produces corks with diameters that are normally distributed with mean 3 cm and standard deviation 0.1 cm. The second machine produces corks with diameters that are normally distributed with mean 3.04 cm and standard deviation 0.02 cm. Acceptance corks have diameters between 2.9 cm and 3.1 cm. Which machine is more likely to produce an acceptable cork?