6 A factory produces chocolate bars. The weights of the bars are normally distributed with mean 155 g and standard deviation 6 g. A random sample of 350 of these bars is chosen.

(a) How many of these 350 bars would you expect to weigh between 148 g and 160 g? [4]

A second factory also produces chocolate bars. The weights of these bars are normally distributed with mean μ g and standard deviation σ g. Tests show that 8% of the bars weigh more than 114.0 g and 20% weigh less than 99.5 g.

(b) Find the value of μ and the value of σ. [5]