Question 8

(a) Sully's back garden is in the shape of the rectangle ABCD shown in the scaled diagram below. In the diagram 1 cm represents 1 m.

[AD] is the back wall of the house.

There is a tree (T) near the end of the garden, as shown in the diagram.

Sully wants to put up a bird table in the garden. The table has to be at least 3 m from the house and at least 4 m from the tree. Using your ruler and compass, **draw and shade in** the region of the garden where the bird table could be placed.



(b) A square board with a circular disc drawn on it is shown in the diagram below. The square has a side length of 20 cm.



(i) Find, in cm², the area of the square.

(ii) Find the area of the disc. Give your answer correct to the nearest cm².

(iii) Write the area of the disc as a percentage of the total area of the square.