Answer all eight questions from this section.

## Question 1

(25 marks)
Dáithí is planning a new garden. The garden has a rectangular planting area, surrounded by a path. The planting area is 20 m long and 12 m wide. The path is 1 m wide.
A diagram of the garden is drawn below.

(a) Find the perimeter of the planting area.

$$
\text { Perimeter }=12+20+12+20=\quad m
$$

(b) Find the area of the planting area.

$$
\text { Area }=12 \times 20=\quad \mathrm{m}^{2}
$$

(c) The path is 1 m wide.
(i) Find the total area of the garden including the path.

(ii) Hence, or otherwise, find the area of the path.

(a) A circular disc is cut out of a square piece of metal as shown below. The disc has a radius of 3 cm .

(i) Find the area of the disc. Give your answer correct to 1 decimal place.

(ii) Find the area of metal left after the disc has been removed.

Give your answer in $\mathrm{cm}^{2}$, correct to 1 decimal place.


