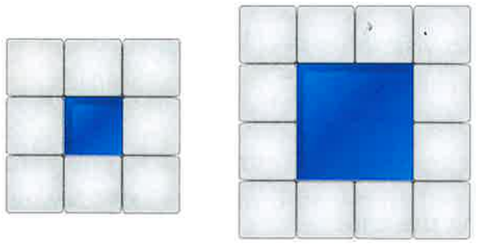
Pond borders

Draw a diagram and record in a table the steps needed to solve the problem

a A square garden pond has square slabs with sides 1 m long around the perimeter. Copy these diagrams of square garden ponds on to 1 cm squared paper.



You need:
- 1 cm squared paper
- ruler

b Draw the next two ponds with sides of 3 m and 4 m.

c Copy and complete the table for the number of slabs needed for a pond with up to 4 m sides.

Length of side of pond (m)	1	2	3	4	5
Number of slabs					

d Look for a pattern and use it to find the number of slabs for a square pond with sides of 5 m. Record your results in the table.

1 The DIY centre sells square ponds and square slabs to surround them.

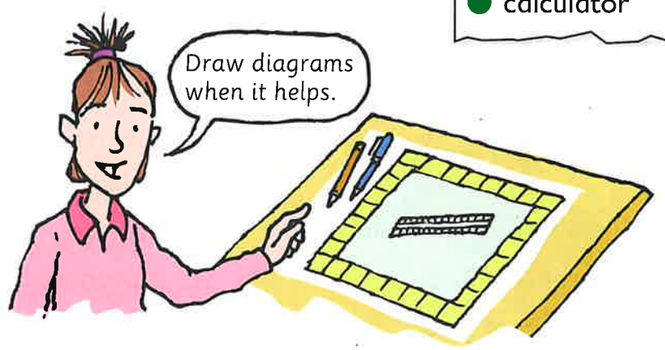
Customer 1 has built a square pond with sides of 8 m.

How many square slabs, with sides of 1 m should he buy?

You need:
- 1 cm squared paper
- ruler
- calculator

a On squared paper draw diagrams of ponds with sides of 1 m, 2 m, and 3 m.

Surround each pond with 1 m square slabs.



b Copy and complete the table.

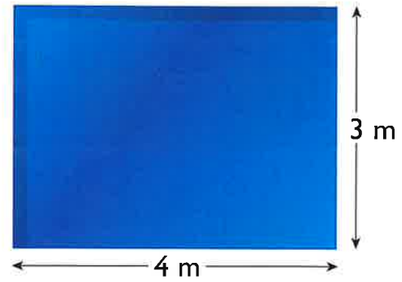
Length of side of pond (m)	1	2	3	4	5
Number of slabs					

c Look for a pattern in the table and write it as a rule.

d Use the rule to find the number of slabs the customer needs to buy for his 8 m pond.

e 1 m square slabs cost £7.95 each. Find the cost of the customer's order.

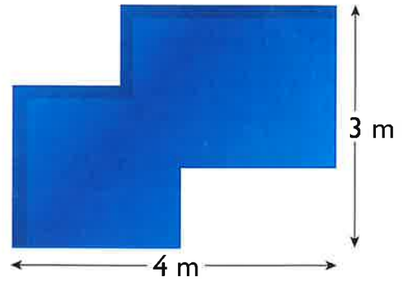
2 Customer 2 has built a rectangular pond with sides of 4 m by 3 m. She is planning to lay square slabs with sides 1 m long around the perimeter of her pond.



a How many 1 m square slabs will she need?

b At £7.95 per slab, find the cost of her order.

3 Customer 3 has designed a pond which has an irregular shape.

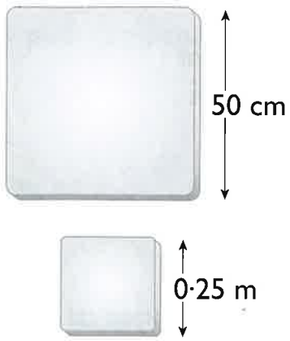


a How many square 1 m slabs will he need?

b He chooses a more expensive square slab at £8.49 each. How much will he pay for his slabs?

1 The DIY store sells square slabs with sides of 50 cm.

How many slabs would Customer 3 need to buy to cover the same area as the 1 m slabs surrounding his irregular-shaped pond?



2 What if he chooses slabs with sides of 0·25 m?

You need:
- 1 cm squared paper (optional)
- ruler (optional)
- calculator