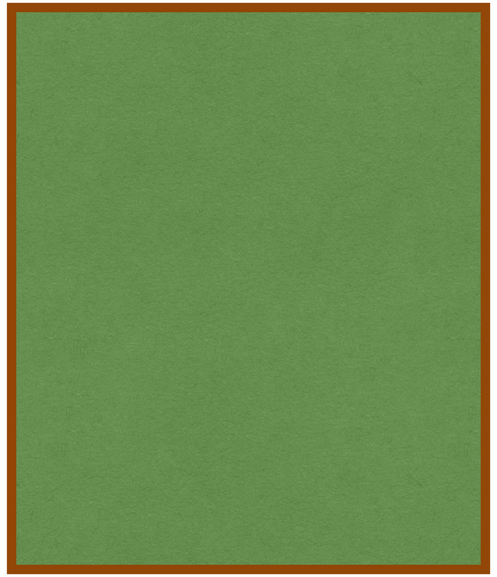
Recap activity

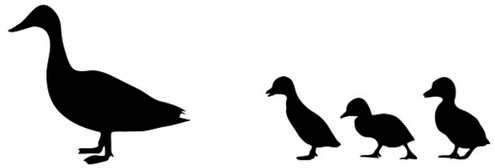
Old MacDonald wants to build a pen for sheep.

He needs some material to put around the outside of the pen. To work out how much material he needs for a **fence and a gate**, should he find the **perimeter** or the **area** of the pen?

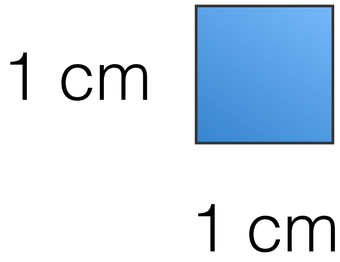
He also wants to buy some turf for the pen. To work out how much **turf** he needs, should he find the **perimeter** or the **area** of the pen?

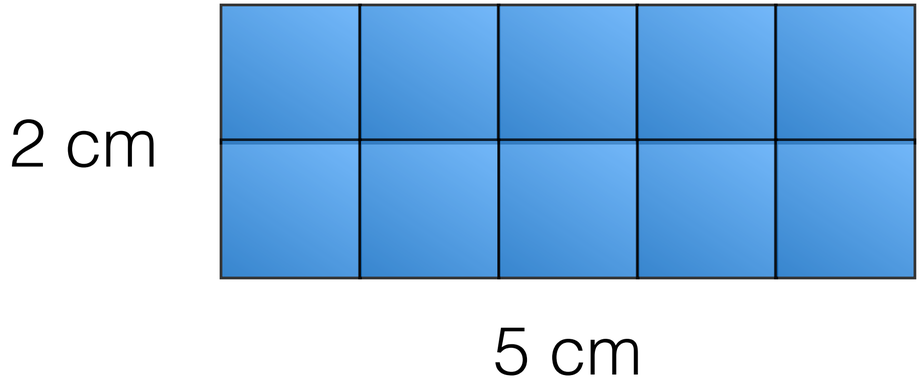


Examples



Find the area of each of the following shapes:

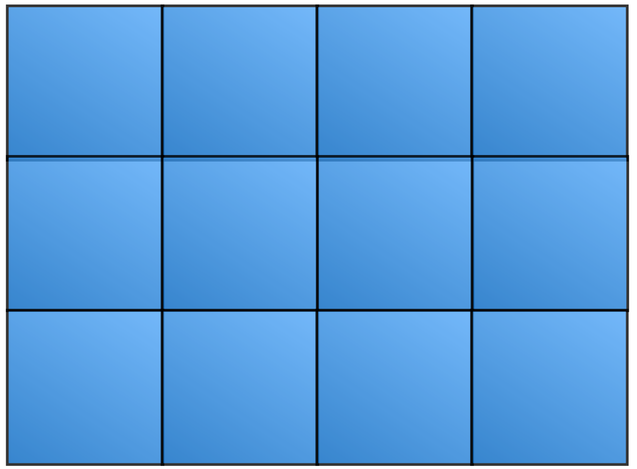




Diagnostic

What is the area of this rectangle?

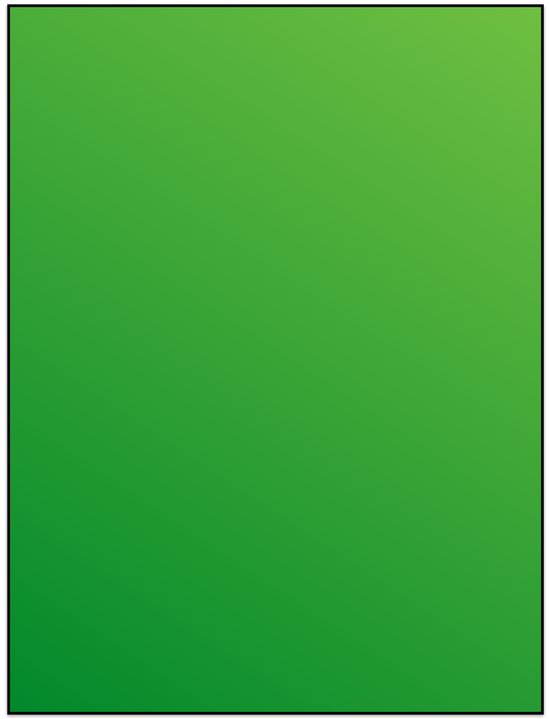
(a) 14 cm^2
(b) 4 cm^2
(c) 12 cm^2
(d) 7 cm^2



Diagnostic

What is the area of this rectangle?

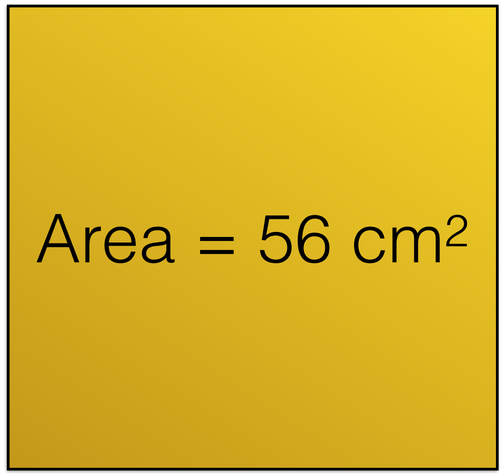
(a) 12 cm^2
(b) 35 cm^2
(c) 24 cm^2
(d) 35 cm^2



7 cm

5 cm

Diagnostic



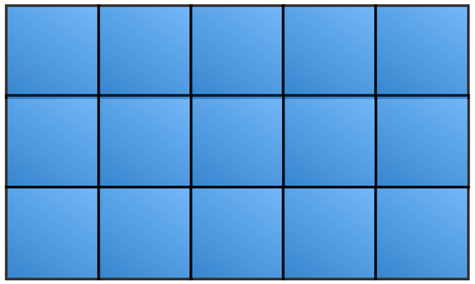
What is the missing number?

(a) 48 cm^2
(b) 6 cm^2
(c) 7 cm^2
(d) 464 cm^2

Alpha Exercise

Find the area of each of the following rectangles:

(1) 5 cm



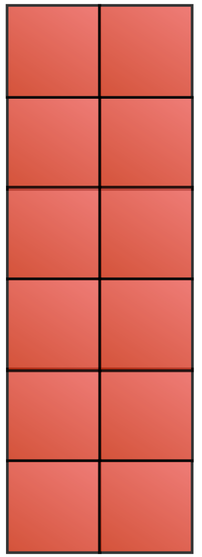
3 cm

(2) 7 cm

1 cm

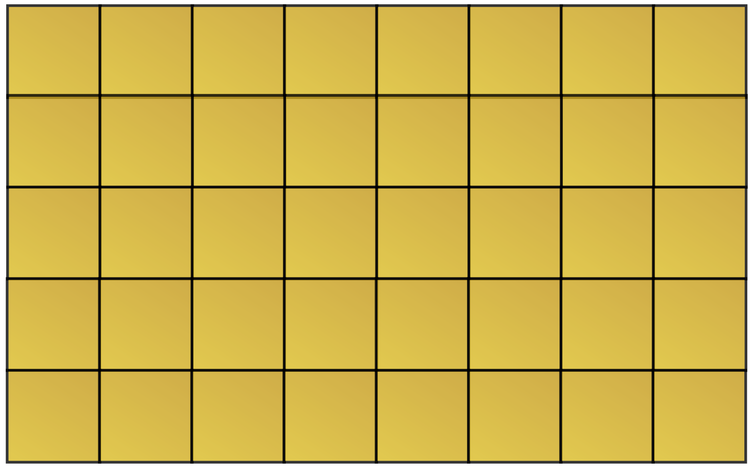
(3)

2 cm



6 cm

(4) 8 cm



5 cm

How many 2 x 1 cm tiles can you fit into each of these four rectangles?

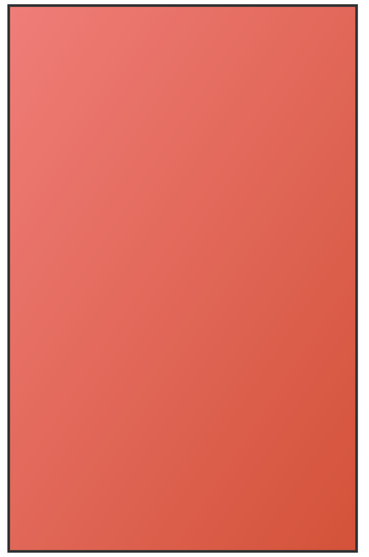
Beta Exercise

Find the area of each of the following rectangles:

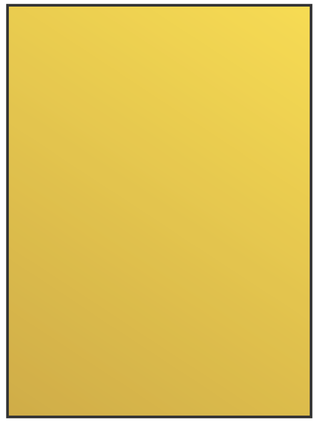
(1)

(2)

(3)



(4)

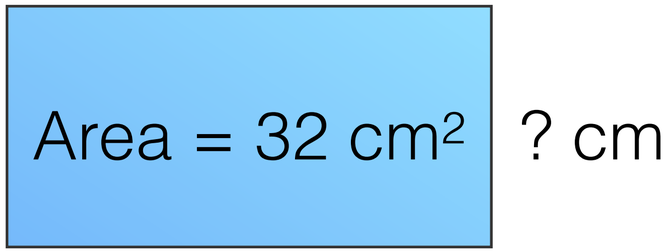


How many 2 x 1 cm tiles can you fit into each of these four rectangles?

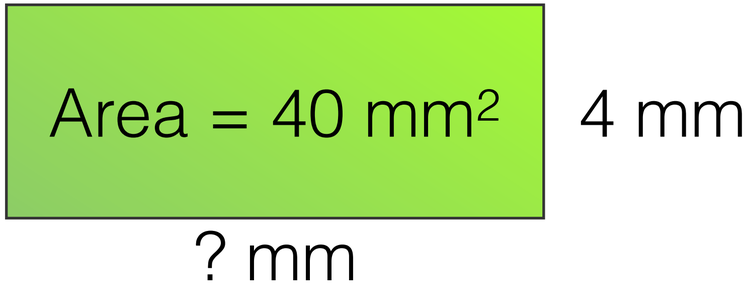
Gamma Exercise

Find the missing numbers:

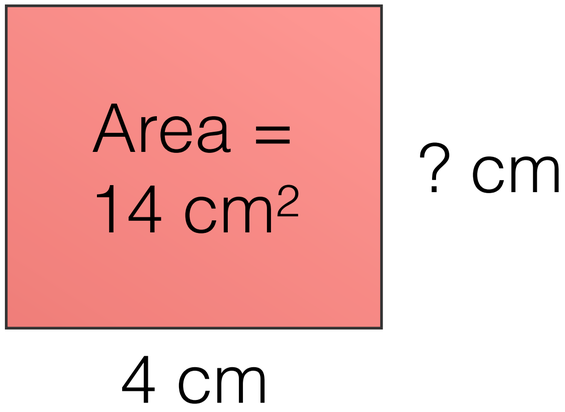
(1)



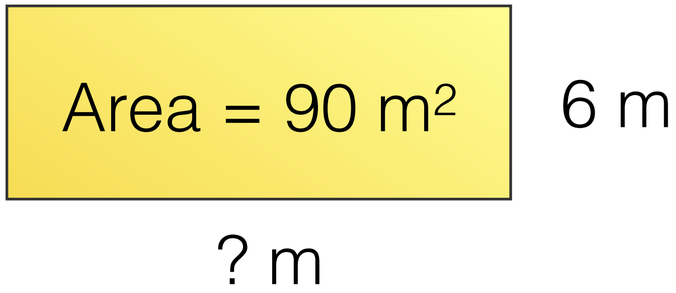
(2)



(3)



(4)

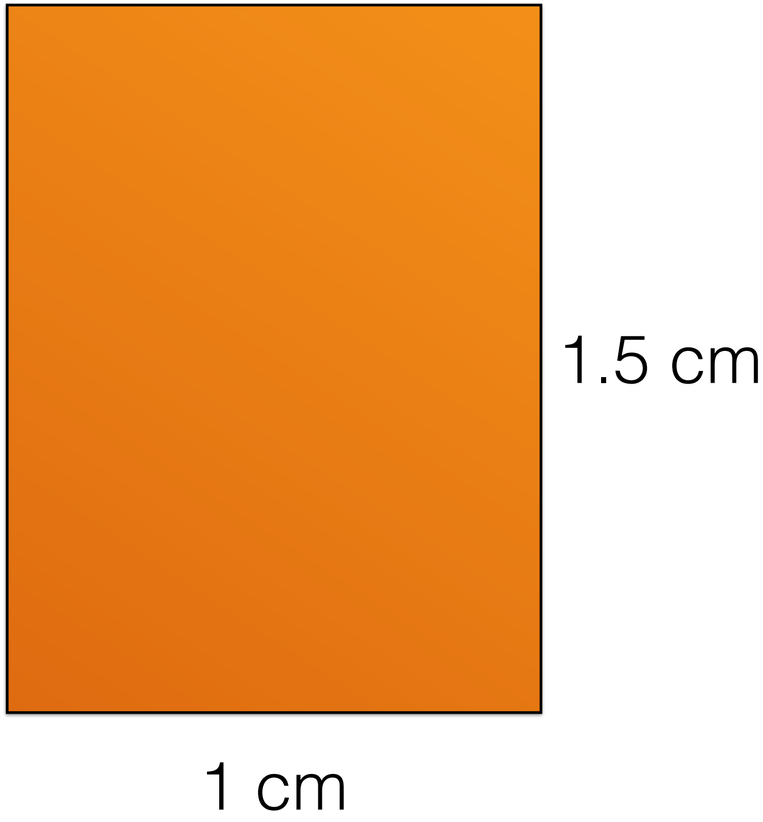


Sketch four different rectangles with an area of 24 cm². Label the lengths and widths of all four rectangles.

Explain the mistake

Dannii says that the area of this rectangle is 1 cm^2 because you can only fit one whole 1 cm x 1 cm square into the rectangle.

Dannii is wrong about the area. Explain why.

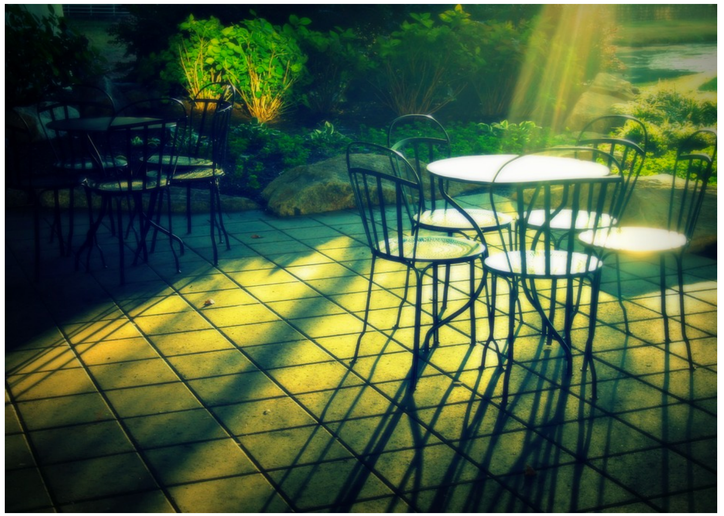


Exam-style question 1

a) What is the area of a rectangular patio measuring 25 feet wide and 30 feet long?

b) How many 1 foot x 1 foot slabs are needed to tile the patio?

c) If each slab costs £5, how much would it cost to buy enough to tile the whole patio?



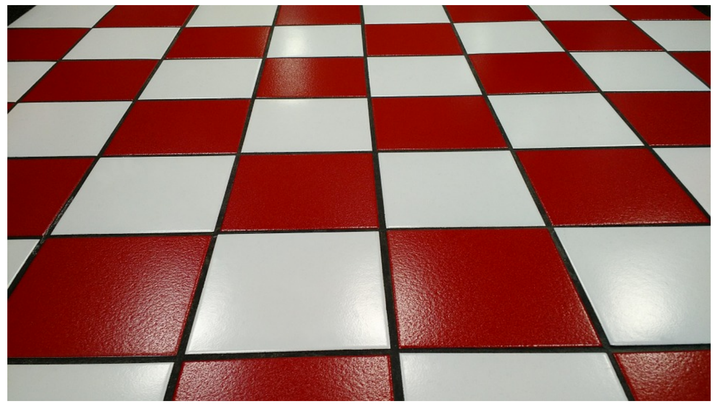
Exam-style question 2

a) What is the area, in cm^2, of a 1 m x 1 m square?

b) What is the area, in cm^2, of a 50 cm x 50 cm square?

c) How many 50 cm x 50 cm tiles are needed to cover a 1 m^2 area?

d) How many 50 cm x 50 cm tiles are needed to cover a rectangular room measuring 2 m x 4 m?



Challenge

You have 120 metres of fencing. You want to use this fencing to enclose a rectangle or square of the largest possible area. What are the dimensions of the shape you enclose?