Form and Use Simple Formulae: Exercise

1 An adult cinema ticket costs x.
A child cinema ticket costs y.
Find the total cost C of:

a) 4 adult tickets.

b) 2 child tickets.

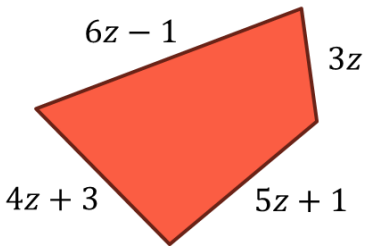
c) 3 adult, and 5 child tickets.

2 *[Edexcel IGCSE Nov 2020 2F(R) Q8c]*
The following rule is used to work out the total cost, in euros, of hiring a room.

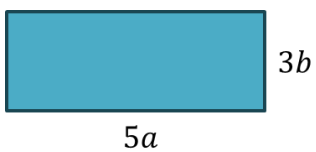
Total cost = 9 euros for each hour plus 20 euros

The total cost of hiring the room for n hours is T euros.
Write down a formula for T in terms of n.

3 Find a formula for the perimeter, P, of the quadrilateral, in terms of z.
Give your answer in its simplest form.



4 Below is a rectangle with measurements given in terms of a and b.

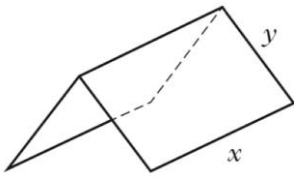


a) Find a formula for the area, A.

b) Given $a = 3$ cm and $b = 2$ cm, find the value of the area.

5 *[SQA Higher 2013 Paper 2 Q7a (Edited)]*
A manufacturer is asked to design an open-ended shelter, as shown, subject to the following condition:

The frame of a shelter is to be made of rods of two different lengths:
- x metres for top and bottom edges;
- y metres for each sloping edge.



Find the total length, L metres, of the rods used in a shelter in terms of x.

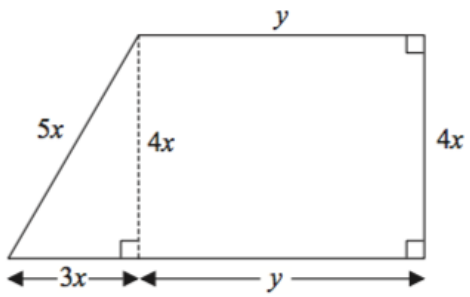
6 *[Edexcel GCSE Nov2005-3I Q9a]*
An adult ticket costs £4.
A child ticket costs £3.
Write down a formula for the total cost, £T, for n adult tickets and a child tickets.

Cinema Ticket Prices	
Adults	£4
Child	£3

7 *[Edexcel IGCSE Jan 2020 2F Q13d]*
Sergio buys m boxes of seeds and n packets of seeds.
Each box contains 10 seeds.
Each packet contains 6 seeds.
The total number of seeds that Sergio buys is T.
Write down a formula for T in terms of m and n.

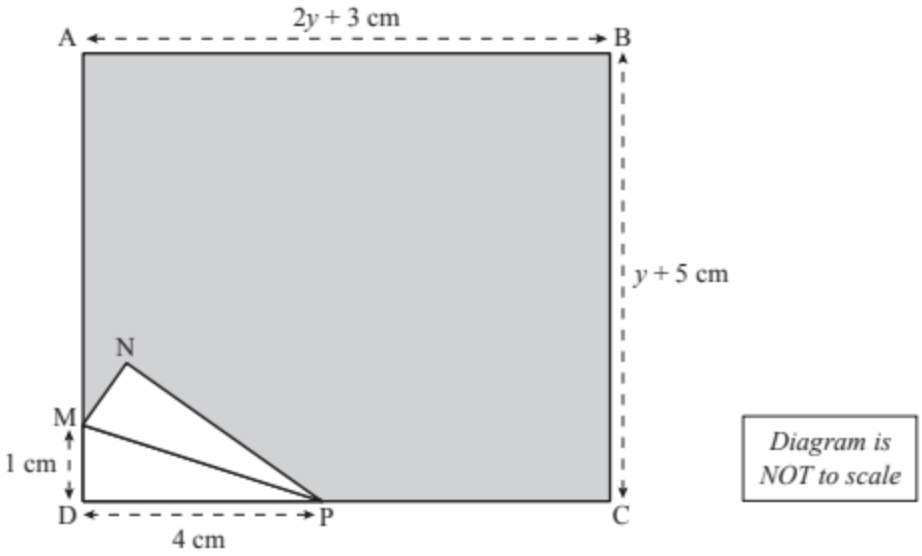
8 *[Edexcel IGCSE May2013-3H Q5b]*

The shape in the diagram is made from a rectangle and a right-angled triangle.
The diagram shows, in terms of x and y, the lengths, in centimetres, of the sides of the rectangle and of the triangle.
Find, in terms of x and y, a formula for the area, A cm^2, of the shape.
Give your answer as simply as possible.



9 *[NZQA L1 Maths and Stats 91027/2 Sep 2020 Q1d (edited)]*

A rectangular piece of paper, $ABCD$, shown in the diagram below, is folded along the line MP, so that D is moved to N.
The following lengths are given: $MD = 1$ cm, $PD = 4$ cm, $BC = y + 5$ cm, and $AB = 2y + 3$ cm.
Find the **perimeter, P,** of the shaded region, in terms of y.



☠ There are 12 eggs in each box. In each crate, there are 20 boxes of eggs.
Frank buys p crates of eggs, but has to remove q boxes, because the eggs within them had cracked open. Write down a formula for the total number of eggs that Frank has, T, in terms of p and q.