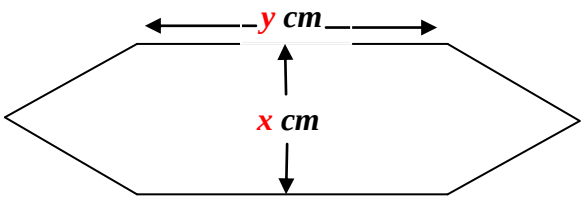
Post printing amendments

Ask Dr Maths Teaching

1. ***A number, when divided by 3, 5 or 7 leaves a remainder of 2. What is the least positive number?***
   Is the answer 2? or 107?

Response: *The answer is obviously meant to be 105* ***+ 2 =107****, or =2.*
On another note:
If question for the primary level, then it should be "What is the number?
If question for the secondary level, then it should be "Find two such numbers?

3.



A piece of wire, 26 cm long is bent form the shape as shown in the diagram. This shape encloses a plane region, of area A cm^2, consisting of a rectangle, x cm by y cm , with an equilateral triangle on each side of length x cm.

Show that area A has a maximum value when x = 4 + $\sqrt{3}$ **.**

Response:

Method I: Solving

a) Find the perimeter, b) find the area c) differentiate $\frac{dA}{dx}$ *d) differentiate* $\frac{d^2A}{dx^2}$

Method II: Guess and Check

a)) differentiate $\frac{dA}{dx}$ *b) substitute* $x = 4 + \sqrt{3}$ to show $\frac{dA}{dx} = 0$ *c) differentiate* $\frac{d^2A}{dx^2}$

It is alright to use Method II, however, students ***must*** learn the algebraic method.