Question 1 (5 Marks)

Here is a rectangle and a right-angled triangle.

$3x - 2$

$x - 1$

$2x$

x
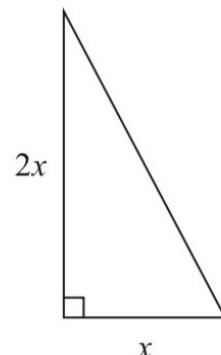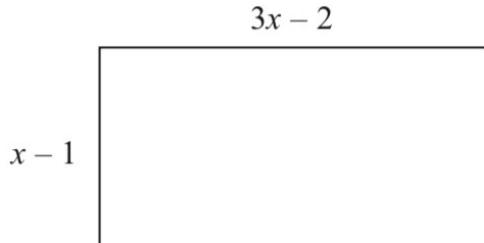
All measurements are in centimetres.
The area of the rectangle is greater than the area of the triangle.

Find the set of possible values of x.

Question 2 (5 Marks)
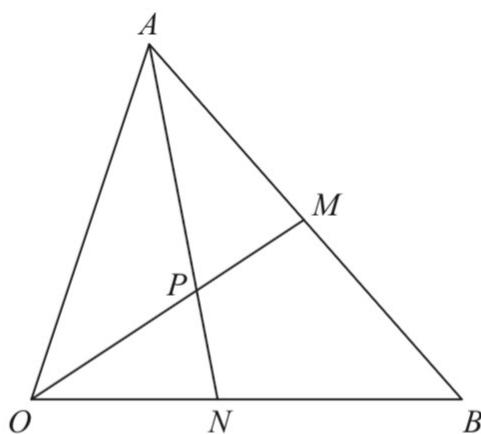
OAB is a triangle.
OPM and APN are straight lines.
M is the midpoint of AB.

$\overrightarrow{OA} = \mathbf{a}$ \qquad $\overrightarrow{OB} = \mathbf{b}$

$OP:PM = 3:2$

Work out the ratio $ON:NB$

....

Question 3 (5 Marks)

n is an integer such that $3n + 2 \leqslant 14$ and $\dfrac{6n}{n^2 + 5} > 1$

Find all the possible values of n.

(Total 15 Marks)