Q1.

Here are two function machines, **A** and **B**.

Input			Output
A	square	add 6	

Input			Output
B	subtract 3	square	
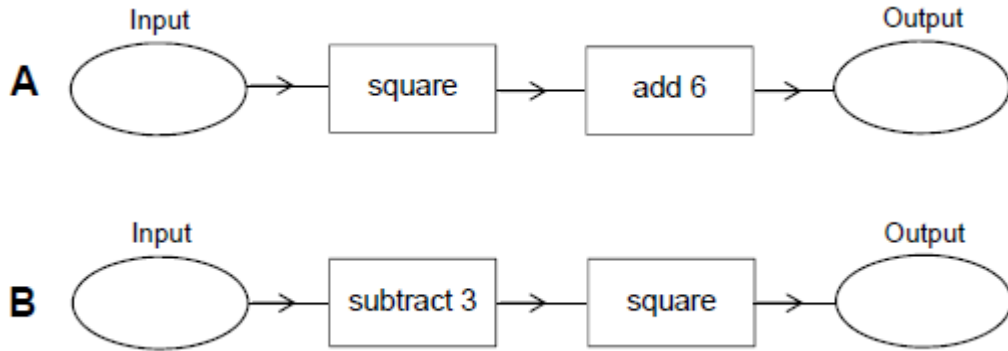
Both machines have the same input.

Work out the range of input values for which

the output of **A** is **less** than the output of **B**.
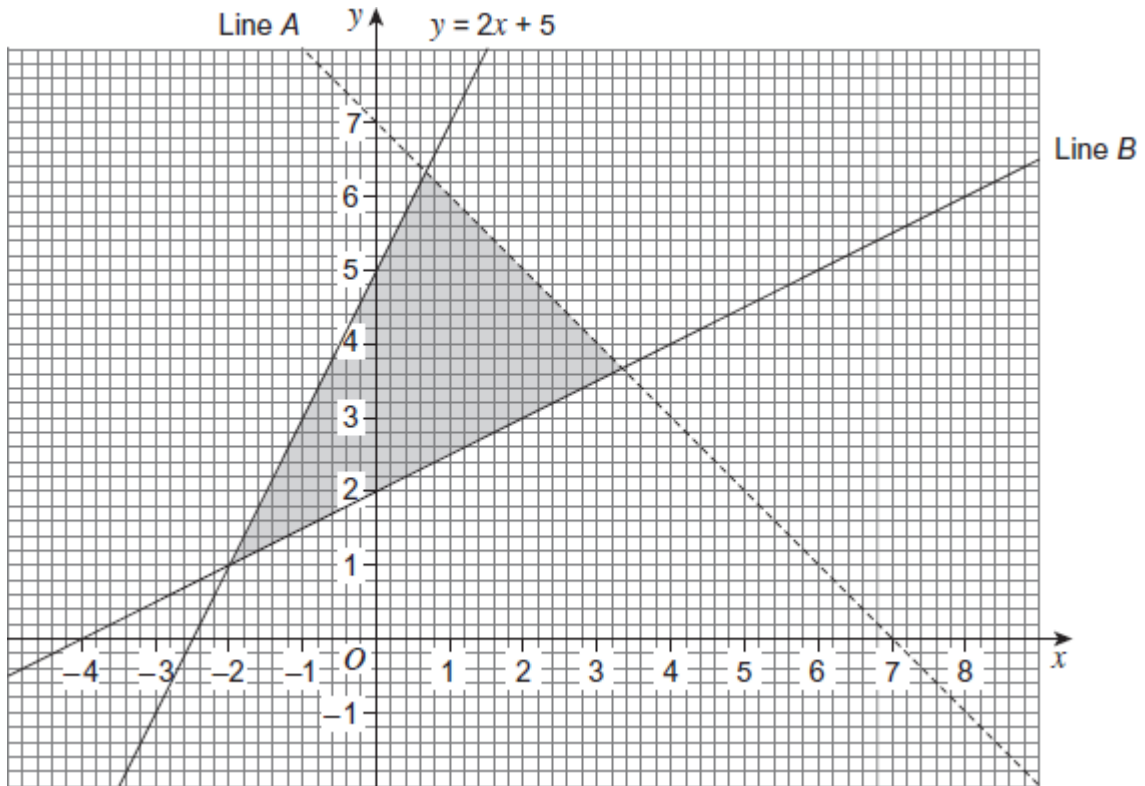
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Answer ....

(Total 4 marks)

Q2.

Points in the shaded region satisfy three inequalities.

One of the inequalities is $y \leq 2x + 5$

(a)   Circle the inequality with boundary line *A*.

   $x + y \geq 7$ $x + y < 7$ $x + y \leq 7$ $x + y > 7$

(1)

(b)   Circle the inequality with boundary line *B*.

   $2y \geq x + 4$ $2y \leq x + 4$ $y \geq x + 2$ $y \leq x + 2$

(1)
(Total 2 marks)

Q3. Solve the simultaneous equations.

$$y = x + 4$$

$$y = 2x^2 + 3x - 1$$

Give your answers to 2 decimal places.

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Answer ....
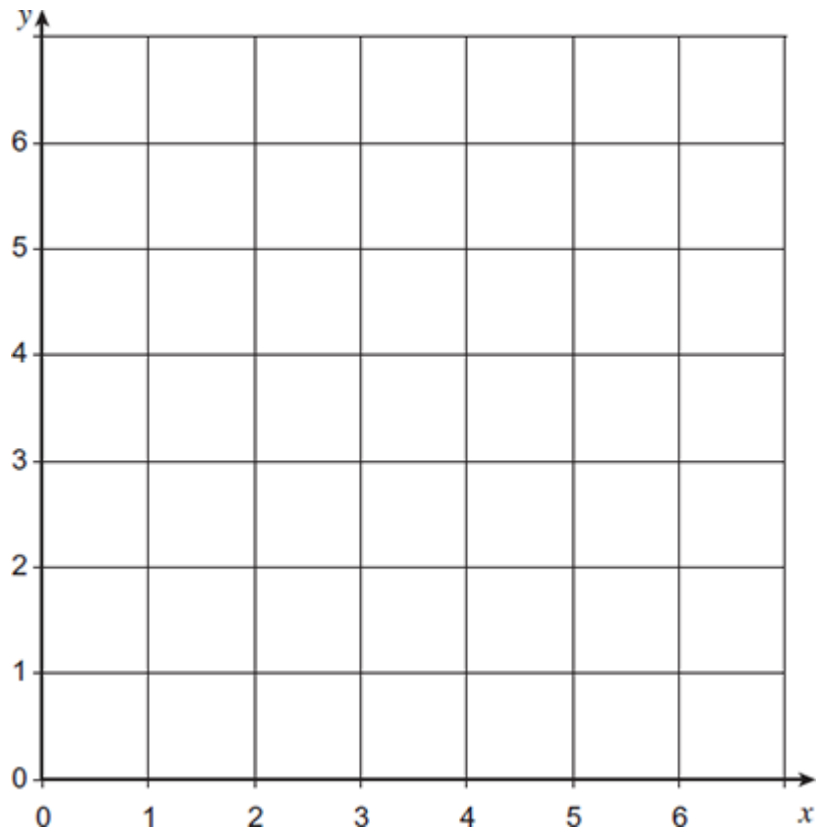
(Total 6 marks)

Q4. On the grid draw lines to show the region satisfied by the three inequalities.

$$x \leq 4$$

$$y \leq x$$

$$x + y \geq 4$$

Label the region clearly with the letter R.

(Total 3 marks)