8.

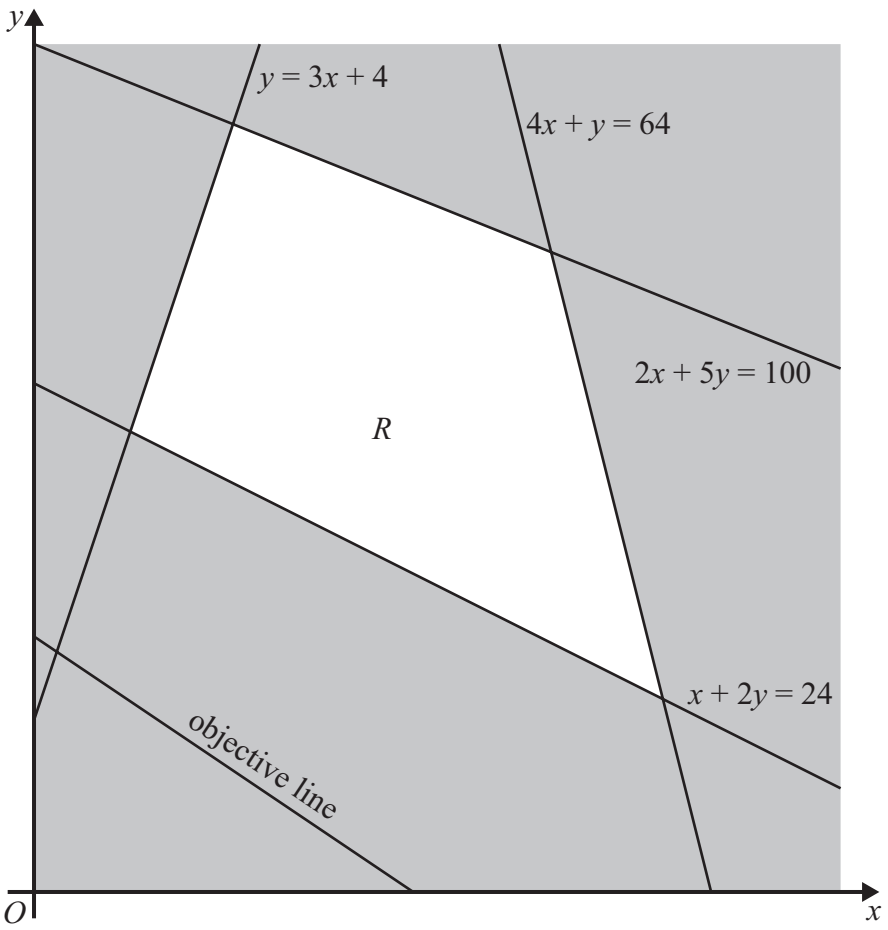


Figure 4

Figure 4 shows the constraints of a linear programming problem in x and y

The unshaded area, including its boundaries, forms the feasible region R

An objective line has been drawn and labelled on the graph.

(a) State the four inequalities that define the feasible region.

(2)

The maximum value of the objective function is $\frac{628}{9}$

The minimum value of the objective function is $\frac{260}{7}$

(b) Determine the objective function, showing your working clearly.

(5)

The practical solution to the linear programming problem requires integer values.

(c) State the minimum integer solution for this problem.

(1)

(Total for Question 8 is 8 marks)

TOTAL FOR PAPER IS 75 MARKS