Introduction to Linear Programming

Question 1.

Each gadget requires 4 hours in the cutting department, while each widget requires 5 hours in the same department. If the cutting department has at most 80 hours available, write the linear inequality that expresses the relationship between the number of gadgets x, and the number of widgets y produced.

Question 2.

Find all the vertex point(s) of the system

$$\begin{aligned} x + 2y &\leq 480 \\ 3x + 4y &\leq 1080 \\ x &\geq 60 \\ y &\geq 30 \end{aligned}$$

Question 3.

Maximise P = 5x + 4y subject to the constraints

$$\begin{aligned} 3x + 4y &\leq 24 \\ 2x + y &\leq 14 \\ x &\geq 0 \\ y &\geq 0 \end{aligned}$$