Inequalities on Graph

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WARM UP

(a) Simplify $2a^5b^2 \times 3a^3b$.

[2]

(b) Factorise $3a^2 - 6ac$.

[2]

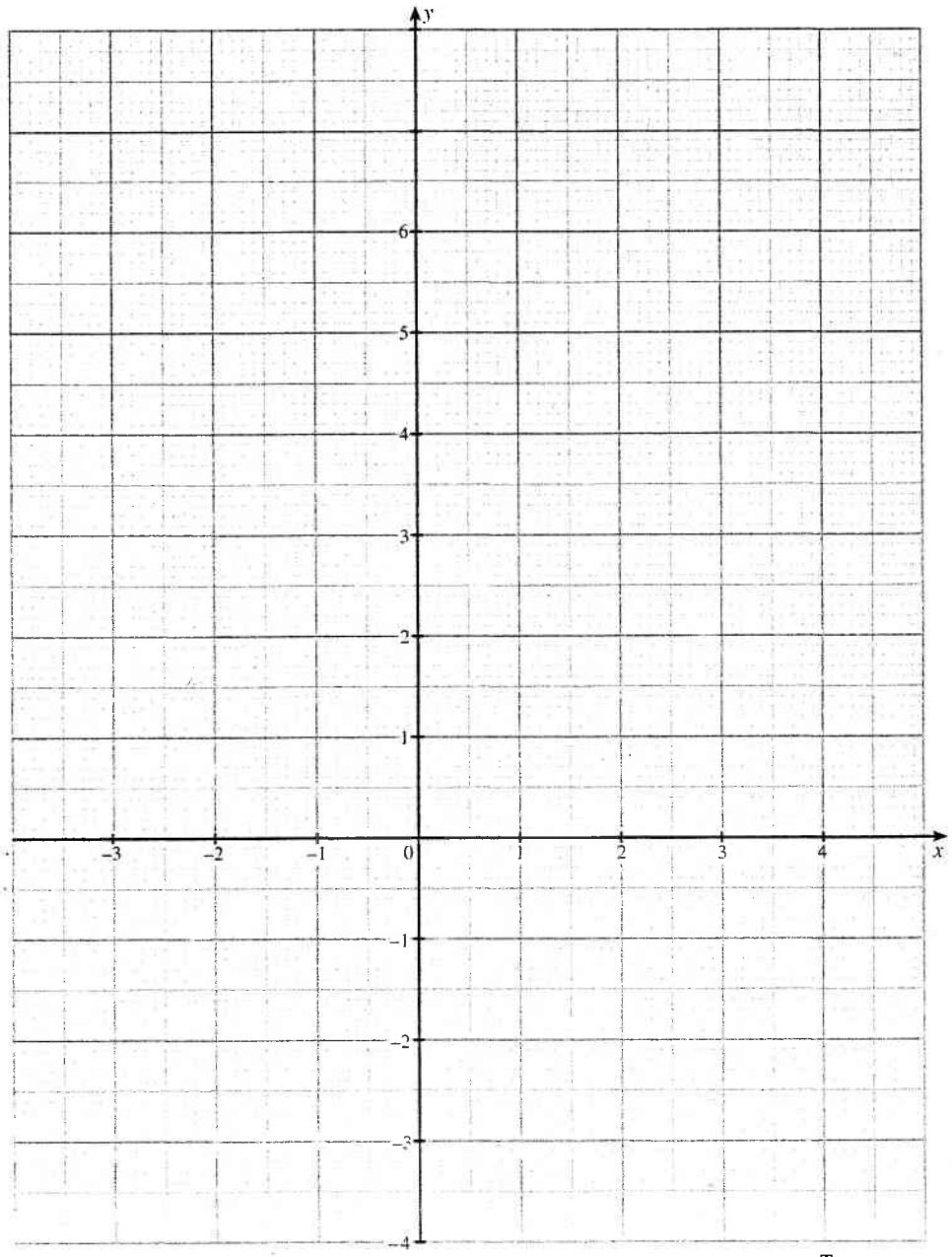
1

On the graph paper provided on the next page, draw the region which satisfies all of the following inequalities.

$$x \geqslant -3$$
$$y \geqslant 2x - 1$$
$$y \geqslant 0$$
$$\text{and } y \leqslant 3 - x$$

Make sure that you clearly indicate the region that represents your answer.

[4]



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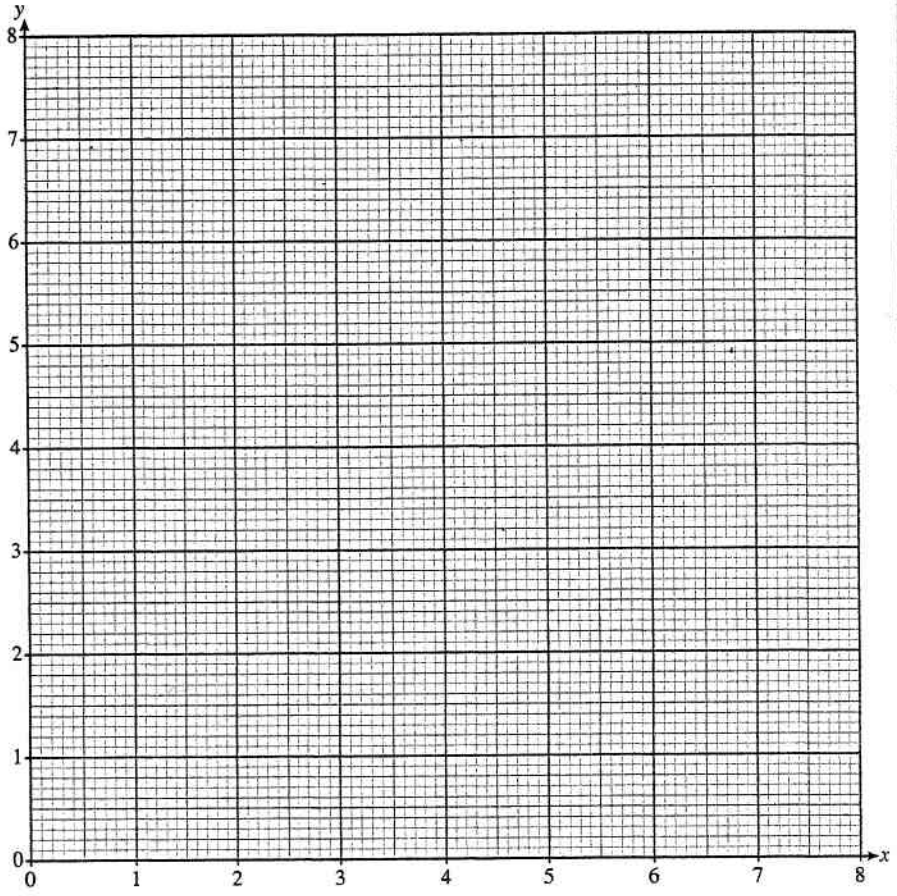
2 On the graph paper opposite, draw the region which satisfies all of the following inequalities.

$$\begin{aligned} x + y &\leqslant 8 \\ y &\geqslant 2x - 1 \\ x &\geqslant 0 \end{aligned}$$

Make sure that you clearly indicate the region that represents your answer.

[3]



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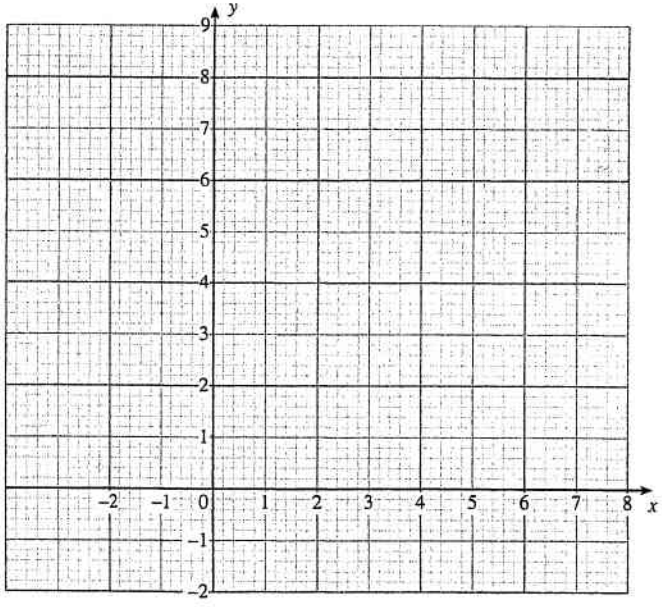
3 On the graph paper provided, draw the region which satisfies **all** of the following inequalities.

$$\begin{aligned} x + y &\leqslant 8 \\ y &\leqslant 4x + 1 \\ x &\geqslant 1 \\ y &\geqslant 2 \end{aligned}$$

Make sure that you clearly indicate the region that represents your answer.

[4]



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4 On the graph paper below, draw the region which satisfies **all** of the following inequalities.

$$\begin{aligned} y &\leqslant 5 \\ y &\geqslant x - 8 \\ x &\leqslant 8 \\ y &\geqslant -5x \end{aligned}$$

Make sure that you clearly indicate the region that represents your answer.

[4]