SIMULTANEOUS LINEAR INEQUALITIES

1 Describe the shaded region in each diagram using both words and inequalities.
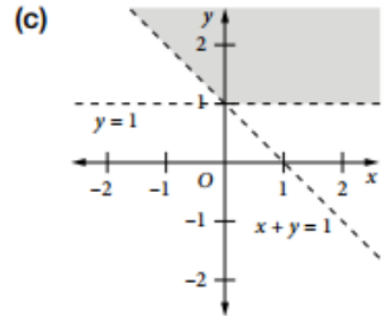
(a)

(b)

(c)

(d)

(e)

(f)
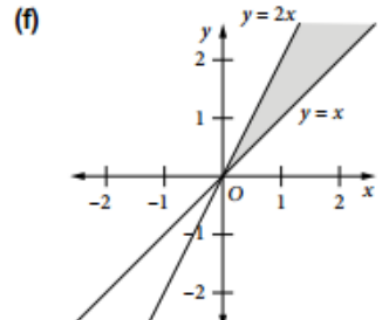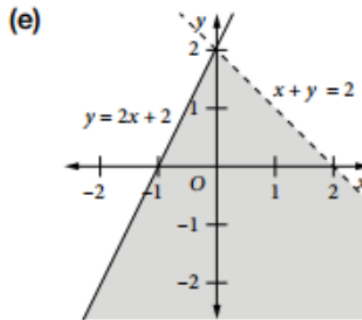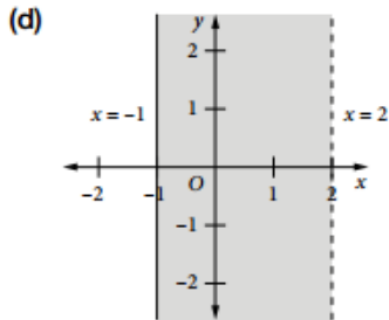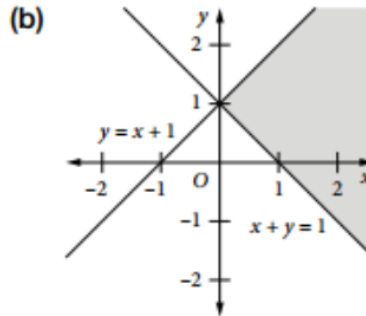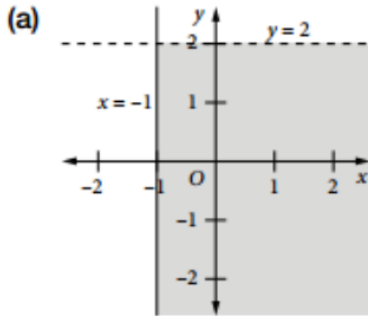
2 Which of the following points is in the shaded region?

A $(1,3)$ **B** $(1,1)$
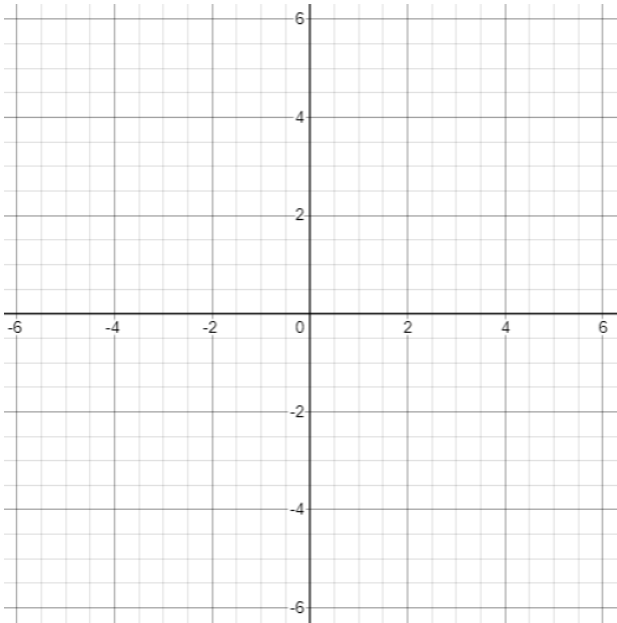**C** $(3,1)$ **D** $(-1,3)$
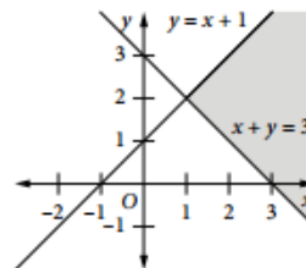
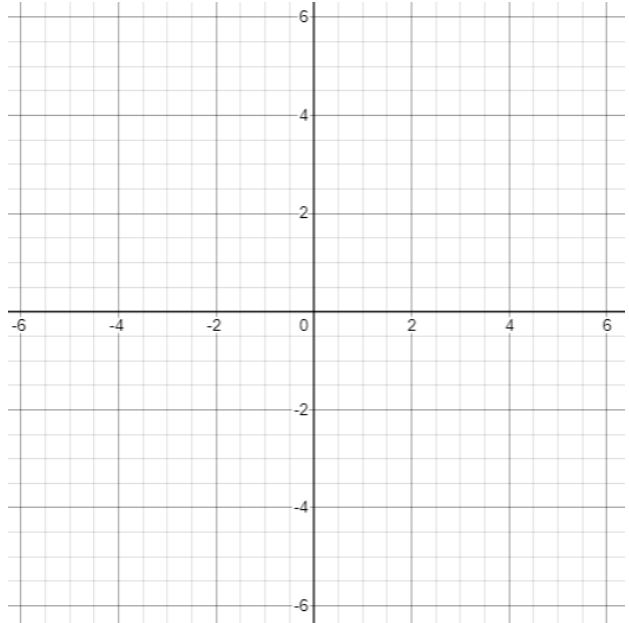**3** What are the inequalities that define the region graphed in question **2**?

SIMULTANEOUS LINEAR INEQUALITIES

4 Graph the regions defined by each set of inequalities. State whether each of the given points is in the region.
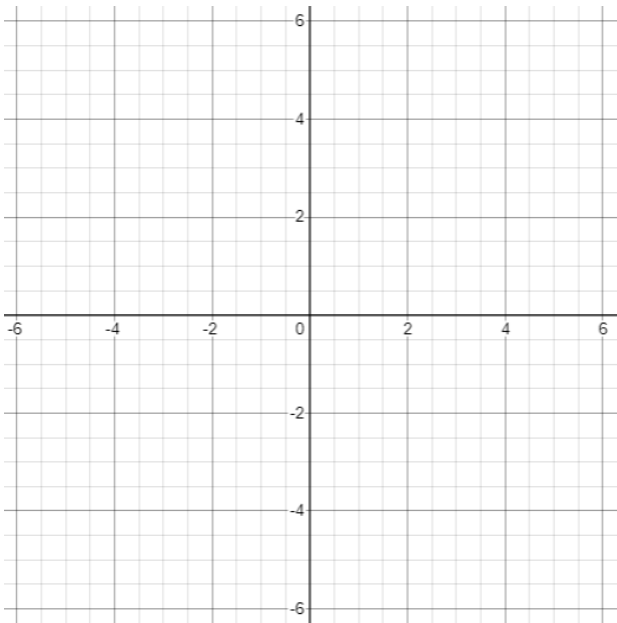
(a) $x + y \leq 3, y \leq x$
$(0,0), (2,3), (-1,-2)$

(b) $2y > x + 2, x + y > -1$
$(0,0), (0,1), (2,5)$

(c) $x + 2y \geq 8, y < 7$
$(0,4), (-1,1), (9,2)$

(f) $y > 3x + 3, x + y < 3$
$(0,3), (2,7), (-1,4)$