Question

The straight lines L_1 and L_2 have respective equations

$$4x + 2y = a \quad \text{and} \quad 5x + 4y = b.$$

It is given that L_1 and L_2 meet at the point P.

Express a in terms of b, given further that P lies in the second quadrant and is equidistant from the coordinate axes.

$$\boxed{a = 2b}$$