nrich

Negatively Triangular

Four straight lines have the following equations:

$$3x + 8y = 59$$

 $x - 2y = 1$
 $y - 4x = 3$
 $3y + 2x = -19$

How many points of intersection do you expect there to be?

Three of the four lines enclose a triangle which only has negative coordinates for all points on that triangle.

Which three lines?