

YOU & MATHS **Lines through a point** Given point $A\left(-2, -\frac{1}{4}\right)$ on the plane, find:

- the line that passes through point A that is parallel to the x -axis;
- the line that passes through point A that is parallel to the y -axis.

Let us draw the point $A\left(-2, -\frac{1}{4}\right)$ on the plane. It is easy to draw the line through A that is parallel to the x -axis (in red), and then the line through A parallel to the y -axis (in blue).



With the help of the drawing we can recall that:

- lines that are parallel to the x -axis have the general equation

$$y = k;$$

the line through A and parallel to the x -axis is:

$$y = -\frac{1}{4};$$

- lines that are parallel to the y -axis have the general equation

$$x = k;$$

the line through A and parallel to the y -axis is:

$$x = -2.$$