

- Step 1: Draw the table of values
- Step 2: Set the x values from -3 to 3
- Step 3: Sub each x value into the eqn
- Step 4: Complete the table
- Step 5: Plot each coordinate on the graph
- Step 6: Check that it's linear

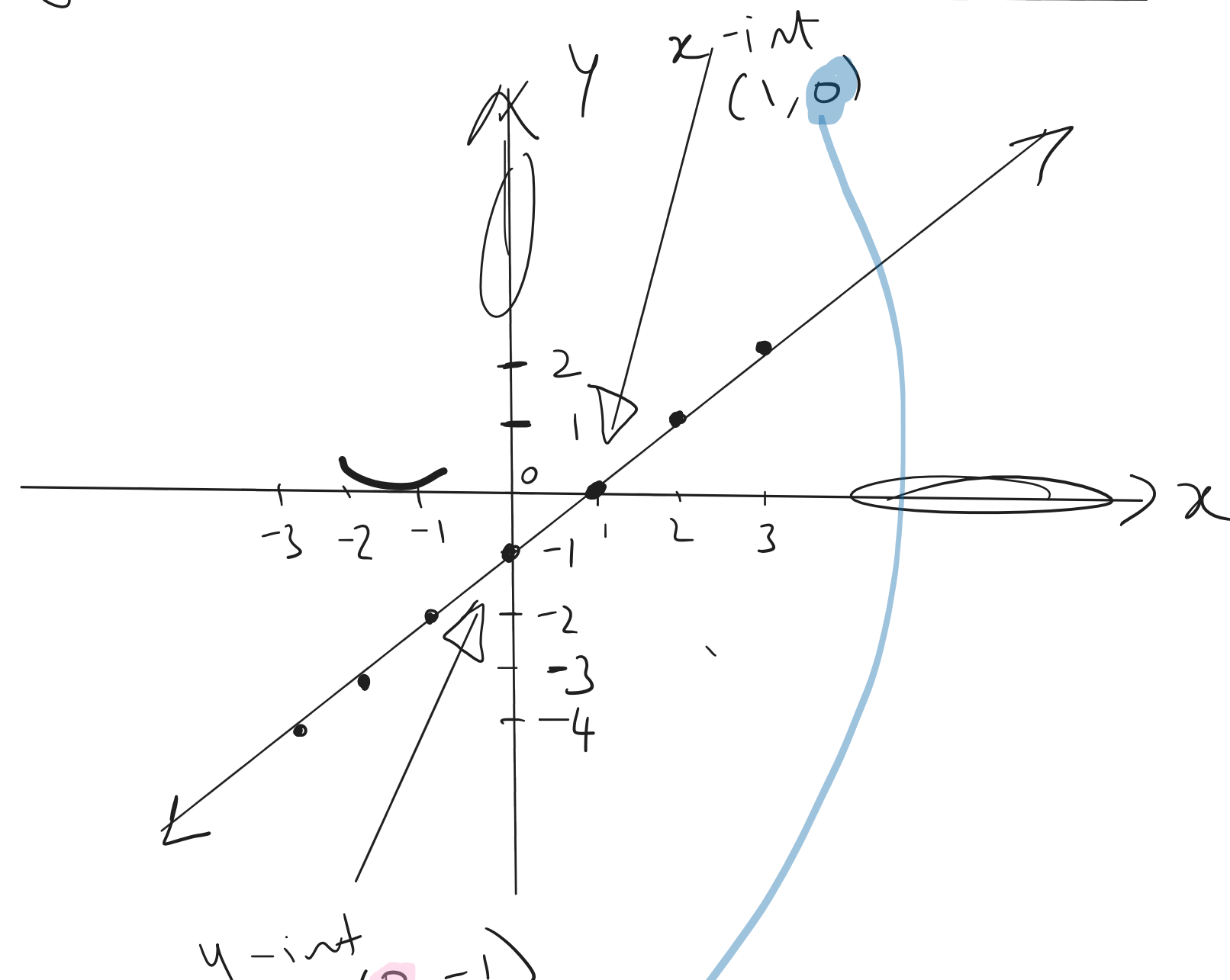
Now you try

Using $-3 \leq x \leq 3$, construct a table of values and plot a graph for these linear relations.

a $y = x - 1$

b $y = -3x + 1$

x	-3	-2	-1	0	1	2	3
y	-4	-3	-2	-1	0	1	2



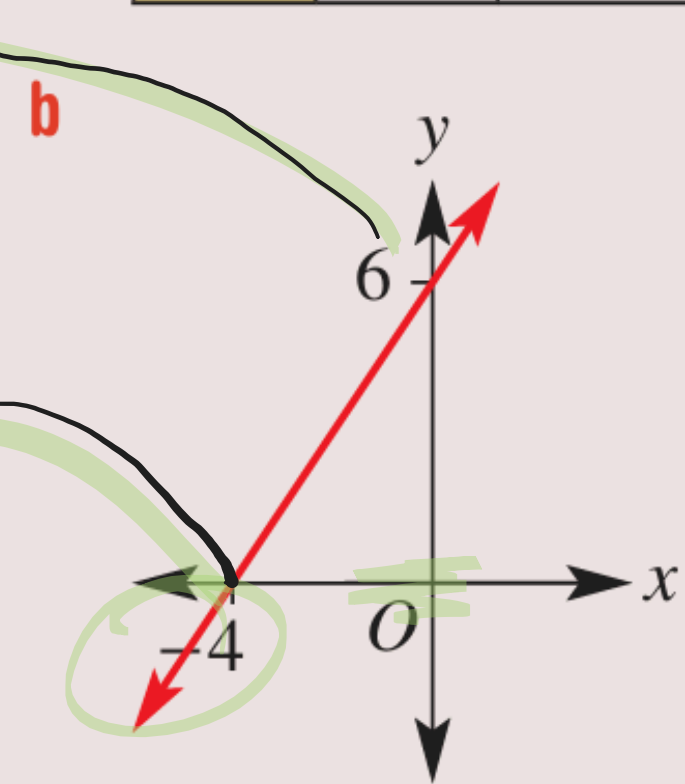
x - intercept = where the line crosses the x-axis. It happens when y = 0

y-intercept = where the line crosses the y-axis. It happens when x = 0

Write down the x-intercept and y-intercept from this table and graph.

a

x	-2	-1	0	1	2	3
y	6	4	2	0	-2	-4



SOLUTION

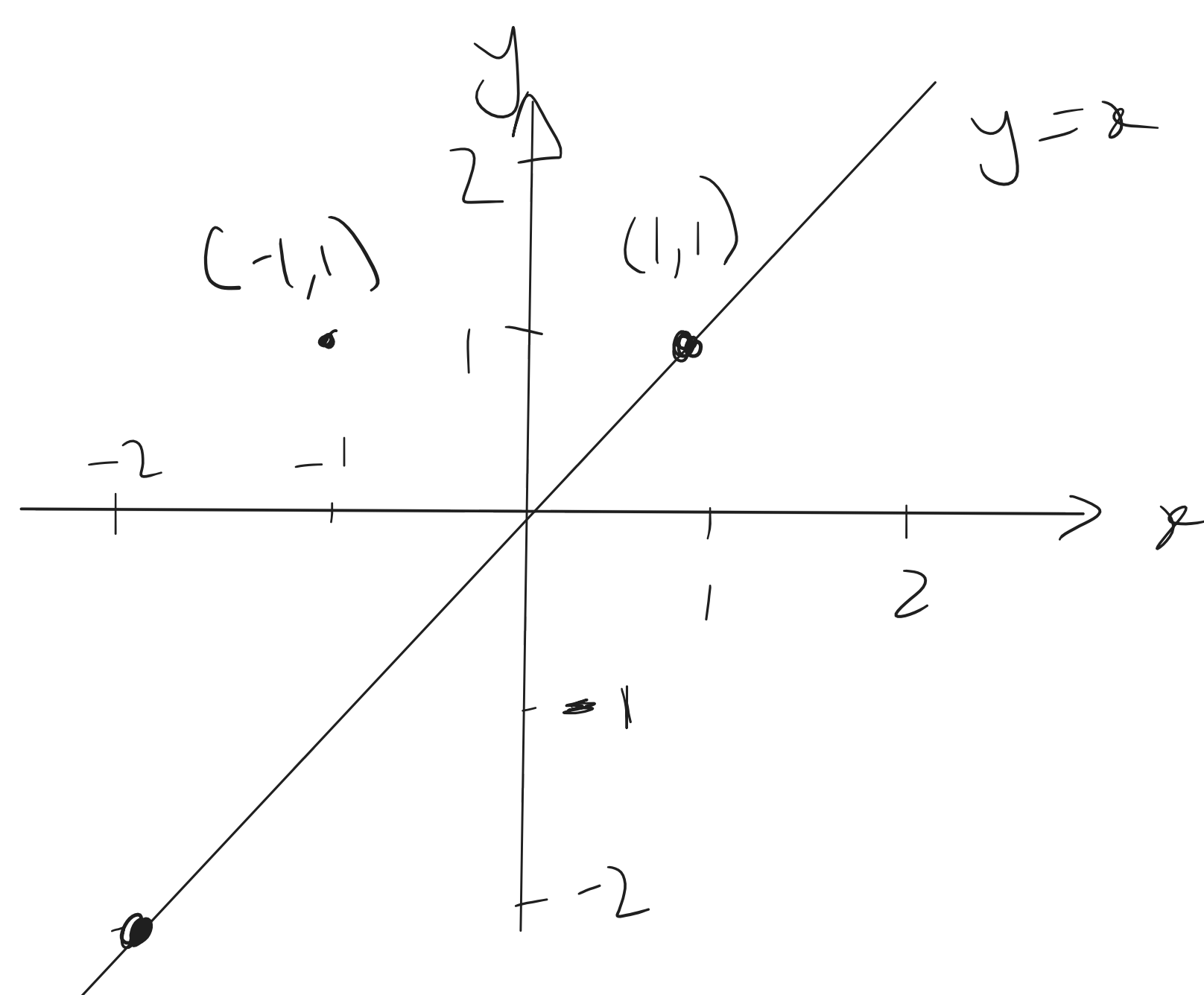
a The x-intercept is 1.

The y-intercept is 2.

EXPLANATION

The x-intercept is at the point where $y = 0$ (on the x-axis).

The y-intercept is at the point where $x = 0$



$y = x$

$$1 = 1 \checkmark$$

$$-2 = -2 \checkmark$$

$$1 = -1 \times$$

LHS = RHS means the point is on the graph

$(-1, 1)$ NOT on the graph

$$y = 2x + 10$$

$$(-2, 4)$$

$$4 = 2(-2) + 10$$

$$4 = -4 + 10$$

$$4 = 6 \times$$

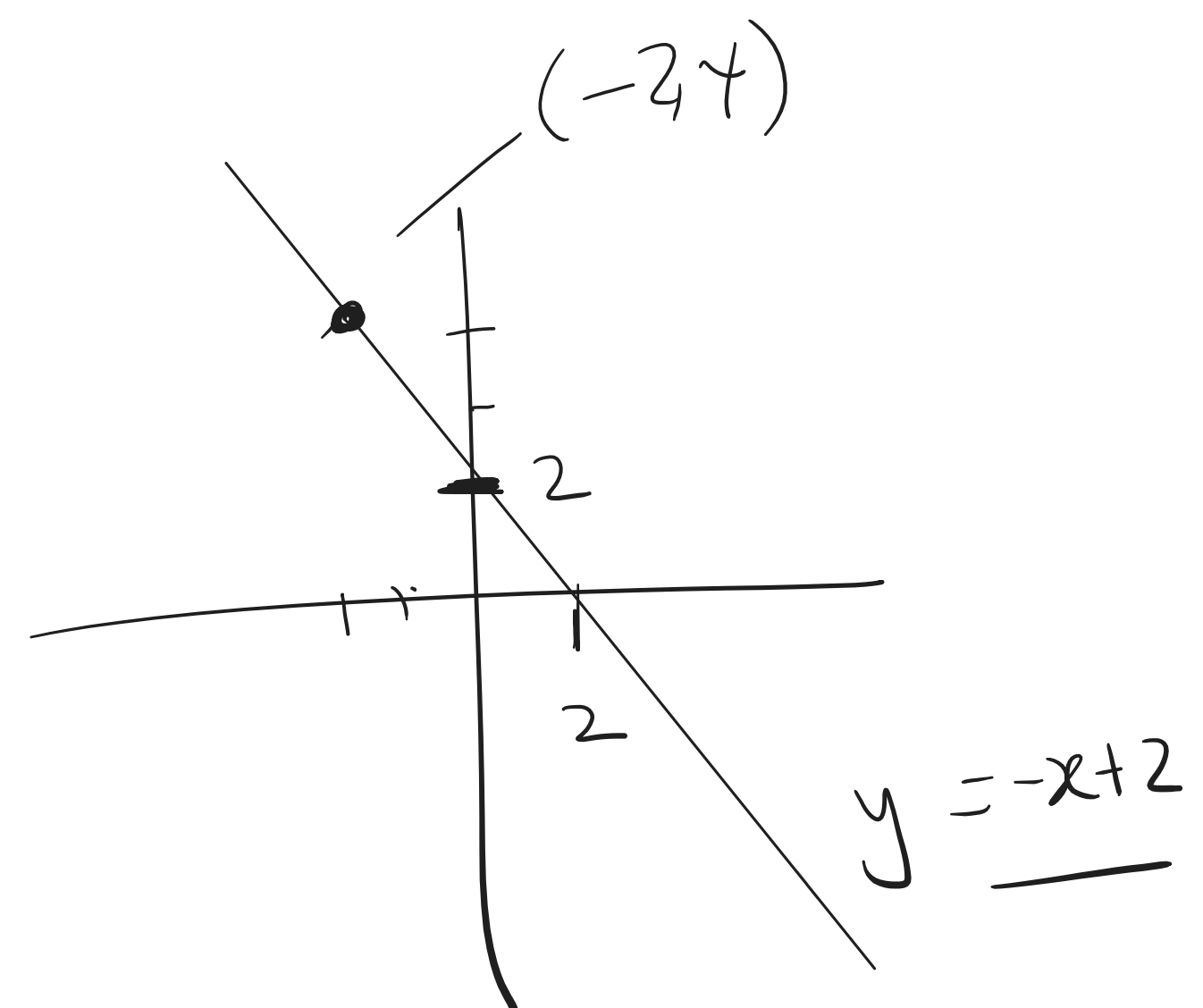
$$y = -x + 2$$

$$4 = -(-2) + 2$$

$$4 = 2 + 2$$

$$4 = 4$$

point is NOT on the graph/line



point IS on the line