Find all points having an *x*-coordinate of 4, whose distance from the point (-2, -1) is 10.

Translation: We need to find all values of y such that the distance from (4, y) to (-2, -1) is 10.

The distance from $(x_1, y_1) = (-2, -1)$ to $(x_2, y_2) = (4, y)$ is given by

$$\sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2} = \sqrt{(4 - (-2))^2 + (y - (-1))^2} = \sqrt{36 + (y + 1)^2}$$

We want this distance to be 10:

$$\sqrt{36 + (y + 1)^2} = 10$$

Now we have an equation, we see that we must solve for *y*. Because of the square inside, there, we expect 2 different answers for *y*.

Square both sides:

$$\left(\sqrt{36 + (y + 1)^2}\right)^2 = 10^2$$

$$36 + (y + 1)^2 = 100$$

Isolate the $(y + 1)^2$: $\qquad (y + 1)^2 = 100 - 36 = 64$

Square Root Property: $\qquad y + 1 = \pm\sqrt{64} = \pm 8$, so that

$$y = -1 \pm 8$$

This gives $y = 7$ or $y = -9$. So the final answer is the two points

$$(4, y) = (4, 7) \text{ or } (4, -9)$$

Let me know if this helps. I'm a bit handicapped by technology when I'm at home.