Answer on Question #58862 - Math - Algebra

Question

Find the slope-intercept form of the line whose slope is 7 and that passes though the point (-5,11)
The equation of the line is?

Solution

The slope-intercept form of the straight line is given by

$$y = kx + b\,. \qquad (1)$$

According to the problem,

$$k = 7\,. \qquad (2)$$

It follows from the previous formulae (1), (2) that

$$y = 7x + b\,. \qquad (3)$$

Using the fact that The line passes through the point (-5,11) and formula (3) we come to the following equation:

$$11 = 7 \cdot (-5) + b\,,$$
$$11 = -35 + b\,,$$

$$b = 46\,. \qquad (4)$$

Formulae (3) and (4) finally give

$$y = 7x + 46\,.$$

Answer: $y = 7x + 46$.