An experiment which gives a straight line graph with positive intercepts on both axes of the graph has a ------------- slope.

A. positive slope

B. **negative slope**

C. zero slope

D. inverse slope

Explanation:

Straight lines are produced by linear functions. This means, that a straight line can be described by an equation, that takes the form of the linear equation formula, $y = mx + b$. In the noted above formula, x and y are coordinates, m is the slope, and b is the y-intercept (value of y where the line crosses the x-axis i.e., the value of y when x=0). Because this equation describes a line in terms of its slope and its y-intercept, this equation is called the slope-intercept form.

Knowing the intercepts of a line is a useful thing. For one thing, it makes it easy to draw the graph of a line - we just have to plot the intercepts and then draw a line through them.

In accordance with the condition of the task, we can let the y-intercept equal $(0, y_1)$ and let the x-intercept equal $(x_1, 0)$. Now, we can apply the graphical method of representing the equation of the straight line, we need to denote the points on the graph. The information is provided in Figure 1.
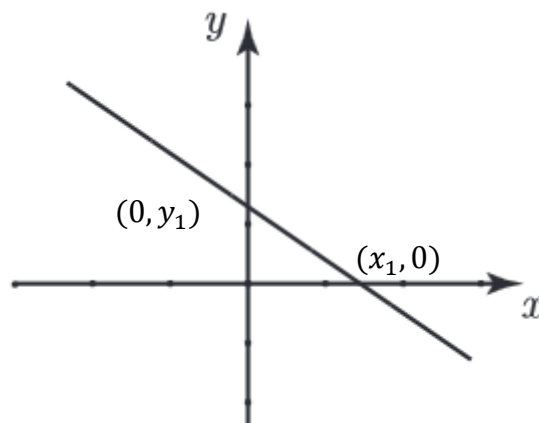

Figure 1 The equation of the straight line with positive intercepts on both axes of the graph.

Then, we have to determine the slope of the obtained line on the Figure 1. We apply the formula of the equation of the line that passes through the points $(0, y_1)$ and $(x_1, 0)$. The slope is equal:

$$m = \frac{y_1 - 0}{0 - x_1} = \frac{y_1}{-x_1} = -\frac{y_1}{x_1}$$

Thus, we can conclude that, the line with coordinates $(0, y_1)$ and $(x_1, 0)$ has a negative gradient.

Answer: B. negative slope.