Answer on Question #46413 – Math – Algebra

1. Write the equation of the line passing through the given points. Write the equation in standard form $Ax + By = C$. (-3,-7) and (-5,-8).

Solution.

We need to construct the system of equations:

$$\begin{cases} -3\frac{A}{C} - 7\frac{B}{C} = 1, \\ -5\frac{A}{C} - 8\frac{B}{C} = 1; \end{cases}$$

To solve this system, we will multiple first equation by 5, second by -3 and add them:

$$-35\frac{B}{C} + 24\frac{B}{C} = 5 - 3.$$

Then $\frac{B}{C} = -\frac{2}{11}$.

Substituting this value in first equation we can obtain $\frac{A}{C}$:

$$-3\frac{A}{C} + \frac{14}{11} = 1,$$

$$\frac{A}{C} = \frac{1}{11}.$$

Hence, we can get equation of the line:

$$x - 2y = 11.$$

Answer:

Equation of the line is $x - 2y = 1$.