Assignment-1

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4b

If the straight lines $3x - 5y = 7$ and $4x + ay + 9 = 0$ are perpendicular to one another, find the value of a.

Solution

If two lines are perpendicular, then product of their slopes is -1.

Let the slope of line 3x - 5y =7 be $m1 = \frac{3}{5}$

Let the slope of line 4x+ay+9=0 be $m2 = \frac{-4}{a}$

As m1m2 = -1

$(\frac{3}{5})(\frac{-4}{a})$ = -1

So $a = (\frac{12}{5})$