4. The line l_1 has equation $4y - 3x = 10$

The line l_2 passes through the points $(5, -1)$ and $(-1, 8)$.

Determine, giving full reasons for your answer, whether lines l_1 and l_2 are parallel, perpendicular or neither.

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$l_1 \rightarrow \quad 4y - 3x = 10$

$y = \frac{10+3x}{4} = \frac{3}{4}x + \frac{10}{4}$

So gradient is $\frac{3}{4}$

$l_2 \rightarrow$ Gradient $= y_2 - y_1 / x_2 - x$

$= \frac{8-(-1)}{-1-5} = -\frac{9}{6} = -\frac{3}{2}.$

Gradient of l_2 is not equal to gradient of l_1
Gradient of l_2 is not $-1/$(gradient of l_1) either

So lines are not parallel nor are they perpendicular.