

Name : \_\_\_\_\_

## Parallel and Perpendicular Lines

Sheet 4

- 1) Equation of line  $j$  is  $y = -7x + 5$ . Equation of line  $k$  is  $-7y = -x + 14$ . Prove that the lines are perpendicular.

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- 2) Equation of  $\overleftrightarrow{AB}$  is  $y - 6x - 5 = 0$ . Equation of  $\overleftrightarrow{BC}$  is  $2y = 12x + 9$ . Are the lines parallel or perpendicular? Justify your answer.

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- 3) Equation of a line  $l$  is  $3x - 4y + 7 = 0$ . Equation of a line  $m$  is  $6x - 8y + 14 = 0$ . Prove that the lines are parallel.

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- 4) Equation of  $\overleftrightarrow{KL}$  is  $3x - 4y + 7 = 0$ . Equation of  $\overleftrightarrow{OP}$  is  $6x - 8y + 14 = 0$ . Prove that  $\overleftrightarrow{KL} \perp \overleftrightarrow{OP}$ .

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- 5) Equation of the lines are  $9y - 12x + 6 = 0$  and  $-2y = -\frac{8}{3}x + 1$ . Are the lines parallel or perpendicular? Justify.

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