

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

## Parallel or Perpendicular Lines

Sheet 1

- 1) A line  $m$  passes through  $(1, -7)$  and  $(6, -2)$ . A line  $n$  passes through  $(3, -9)$  and  $(8, -4)$ . Prove that the lines  $m$  and  $n$  are parallel.

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- 2) A line  $u$  passes through  $(3, -7)$  and  $(5, -4)$ . Slope of a line  $t$  is  $-\frac{2}{3}$ . Prove that the lines  $t$  and  $u$  are perpendicular.

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- 3) A line passes through  $A(1, 5)$  and  $B(4, 2)$ . Another line passes through  $C(2, -2)$  and  $D(7, 13)$ . Is  $\overleftrightarrow{AB}$  parallel to  $\overleftrightarrow{CD}$ ?

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- 4) A line passes through  $A(1, 2)$  and  $B(3, 6)$ . Another line passes through  $C(-5, 4)$  and  $D(1, 12)$ . Are the lines  $AB$  and  $CD$  parallel or perpendicular? Justify your answer.

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- 5) Slope of a line  $p$  is 1. A line  $q$  passes through  $(-1, -8)$  and  $(4, -3)$ . Are the lines  $p$  and  $q$  parallel or perpendicular? Justify your answer.

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