

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

## Parallel and Perpendicular Lines

Sheet 1

- 1) A line  $u$  passes through  $(6, 1)$  and  $(8, p)$ . A line  $v$  passes through  $(2, -3)$  and  $(10, -6)$ . The lines  $u$  and  $v$  are parallel. Find the value of  $p$ .

$p =$  \_\_\_\_\_

- 2)  $\overleftrightarrow{PQ}$  passes through  $(-5, 6)$  and  $(1, 0)$ .  $\overleftrightarrow{RS}$  passes through  $(t, -1)$  and  $(2, 9)$ . The lines  $PQ$  and  $RS$  are perpendicular. Find the value of  $t$ .

$t =$  \_\_\_\_\_

- 3) A line  $g$  passes through  $(-2, 3)$  and  $(4, 7)$ . A line  $h$  passes through  $(1, 2)$  and  $(5, 6)$ . The lines  $g$  and  $h$  are parallel, find the value of  $d$ .

$d =$  \_\_\_\_\_

- 4) A line passes through  $A(3, 5)$  and  $B(7, 9)$ . Another line passes through  $C(-5, k)$  and  $D(4, 10)$ .  $\overleftrightarrow{AB}$  is perpendicular to  $\overleftrightarrow{CD}$ . Find the value of  $k$ .

$k =$  \_\_\_\_\_

- 5) A line  $m$  passes through  $(-9, -5)$  and  $(-7, 0)$ . A line  $n$  passes through  $(-6, -8)$  and  $(-4, g)$ . The lines  $m$  and  $n$  are parallel. Find the value of  $g$ .

$g =$  \_\_\_\_\_

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## Answer Key

Sheet 1

### Parallel and Perpendicular Lines

- 1) A line  $u$  passes through  $(6, 1)$  and  $(8, p)$ . A line  $v$  passes through  $(2, -3)$  and  $(10, -6)$ . The lines  $u$  and  $v$  are parallel. Find the value of  $p$ .

$$p = \underline{\frac{1}{4}}$$

- 2)  $\overleftrightarrow{PQ}$  passes through  $(-5, 6)$  and  $(1, 0)$ .  $\overleftrightarrow{RS}$  passes through  $(t, -1)$  and  $(2, 9)$ . The lines  $PQ$  and  $RS$  are perpendicular. Find the value of  $t$ .

$$t = \underline{-8}$$

- 3) A line  $g$  passes through  $(-2, 3)$  and  $(4, 7)$ . A line  $h$  passes through  $(1, 2)$  and  $(5, 6)$ . The lines  $g$  and  $h$  are parallel, find the value of  $d$ .

$$d = \underline{2}$$

- 4) A line passes through  $(-3, 5)$  and  $(1, 9)$ . Another line passes through  $(-5, k)$  and  $(2, 10)$ . The two lines are perpendicular. Find the value of  $k$ .

$$k = \underline{6}$$

- 5) A line  $m$  passes through  $(-9, -5)$  and  $(-7, 0)$ . A line  $n$  passes through  $(-6, -8)$  and  $(-4, g)$ . The lines  $m$  and  $n$  are parallel. Find the value of  $g$ .

$$g = \underline{-3}$$

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