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.

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.

3) A line passes throu…rough C(2, –2) and D(7, 13). Is $\overleftrightarrow{AB}$ para…

4) A line passes throu…ough (–5, 4) and (3, 6). Prove that th…

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.

Name : _____

Answer Key

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.

slope of m = 1 ; slope of n = 1

slope of m = slope of n

The lines m and n are parallel.

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.

slope of $t = -\frac{2}{3}$

slope of $t \times$ slo

The lines t and

3) A line passes throu hrough C(2, –2) and D(7, 13). Is $\overleftrightarrow{AB}$ para

slope of $\overleftrightarrow{AB}$ = 3

slope of $\overleftrightarrow{AB}$ = s

Yes. As the slo

4) A line passes throu ough (–5, 4) and (3, 6). Prove that th

Slope of a line

Slope of a line

Product of their slopes equals to –1, the lines are perpendicular.

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.

slope of p = 1 ; slope of q = 1

slope of p = slope of q

As the slopes are equal, the lines p and q are parallel.