Name : _____

Parallel and Perpendicular Lines

Sheet 2

1) (3, 3) and (7, –1) are the endpoints of a chord KL. (3, –5) and (7, –1) are the endpoints of a chord MN. Prove that the chords are perpendicular.

2) Equation of a line AB is y = 7x + 1. A line CD passes through (9, –4) and (8, –11). Prove that the lines AB and CD are parallel.

3) Slope of a line PQ (6, 2) and (8, –4). Is triangle PQR a righ

4) L(2, 1) is the cente s on the circle. Are the line segme nswer.

5) The coordinates of S and T are (8, 9) and (6, 5) respectively. Equation of a line UV is 2y = 4x – 16. Prove that the lines ST and UV are parallel.

Name : _____

Answer Key

Sheet 2

Parallel and Perpendicular Lines

1) (3, 3) and (7, –1) are the endpoints of a chord KL. (3, –5) and (7, –1) are the endpoints of a chord MN. Prove that the chords are perpendicular.

slope of $\overline{KL}$ = –1 ; slope of $\overline{MN}$ = 1

slope of $\overline{KL}$ × slope of $\overline{MN}$ = –1

The chords are perpendicular.

2) Equation of a line AB is y = 7x + 1. A line CD passes through (9, –4) and (8, –11). Prove that the lines AB and CD are parallel.

slope of $\overleftrightarrow{AB}$ = 7

slope of $\overleftrightarrow{AB}$ = s

The lines AB ar

3) Slope of a line PQ (6, 2) and (8, –4). Is triangle PQR a righ

slope of $\overline{PQ}$ = -

slope of $\overline{PQ}$ × s

Yes. Product of R is a right triangle.

4) L(2, 1) is the cente s on the circle. Are the line segme nswer.

slope of $\overline{LM}$ = -

slope of $\overline{LM}$ × s

Yes. Product of ts LM and LN are perpendicular.

5) The coordinates of S and T are (8, 9) and (6, 5) respectively. Equation of a line UV is 2y = 4x – 16. Prove that the lines ST and UV are parallel.

slope of $\overleftrightarrow{ST}$ = 2 ; slope of $\overleftrightarrow{UV}$ = 2

slope of $\overleftrightarrow{ST}$ = slope of $\overleftrightarrow{UV}$

The lines ST and UV are parallel.