**Bil. Math(G8) worksheet 2: rectangle and rhombus** **Name:** **Score:**

1. As in the graph, ABCD is a rectangle, E,F are two points on AB and AE=BE. Prove DE=CF.



1. In rectangle ABCD, the diagonals AC, BD are intersecting at O, $BE⊥AC, CF⊥BD$. Prove that BE=CF.



1. ABCD is a rectangle(AD>AB), E is a point on BC, AE=AD, $DF⊥AE$ with foot of perpendicular F. Find the relationship between DF and AB.



1. As in the graph, in *□*ABCD, E,F are two points on BC, BE=CF, AF=DE. Prove that ABCD is a rectangle.



1. In rectangle ABCD, the diagonals AC,BD are intersecting at O, MN is a line passing through O and meets AD at M, meets BC at N. $MN=2NC, MN⊥BD$. Prove that MN=BN.



1. ABCD is a rhombus, E,F are middle points of CD, AD. Prove that AE=CF.



1. ABCD is a rhombus, the length of the two diagonals AC,BD are 8 and 6. Move segment BD horizontally such that points C and D coincide, point B goes to E. Find the area of $∆BEC$.



1. ABCD is a square, P is a point on the diagonal AC, $PE⊥BC, PF⊥CD$. Prove that
2. BP=DP (2) BE=DF



1. ABCD is a square, E is a point on side BC, $DG⊥AE$, prove that BF=CE.



1. ABCD is a square, E is a point on AB, $DF⊥DE$ where F is a point on the extension of BC. Prove that DE=DF.



1. ABCD is a square, AC and BD are intersecting at E, AF bisects $∠BAC$ and intersects with BD at F. Prove that EF+AE=AB.



1. As in the graph, in *□*ABCD, the diagonals AC,BD are intersecting at O, E is a point on the extension of BD such that $∆ACE$ is an equilateral triangle.



1. prove that ABCD is a rhombus
2. If $∠AED=2∠EAD$, prove that ABCD is a square.