Grade 8 Bil. Math worksheet 6:proof Name: Score:

1. Fill in blanks.
2. P is a point on the bisector line AD of $∠BAC, PE⊥AC$. If PE=3, then the distance from P to AB is







1. In $∆ABC$, AD is the angular bisector, if $AB:AC=\sqrt{3}:\sqrt{2}$, then the ratio between the area $S\_{∆ABD}:S\_{∆ACD}$=
2. Point P has equal distance to AE, BC, AC, tell True or False for each of the following statement:

① P is on the bisector of $∠BAC$

② P is on the bisector of $∠CBE$

③ P is on the bisector of $∠BCD$.

1. As in the graph, AC=DB, $DC⊥OA, AB⊥OD$ with foots of perpendicular C,B. Prove
2. PA=PD



1. $∠POC=∠POB$
2. $∆ABC$ is an equilateral triangle, AD is the median line , $∆ADE$ is also an equilateral triangle. Prove BD=BE.



1. In $∆ABC$, the bisector of $∠ABC$ intersects with the bisector of exterior angle of $∠ACB$ at P. Prove: point P has equal distance to AB, BC, CA.



1. In $∆ABC$, AB=AC, the perpendicular bisectors of AB, AB meets at O. Prove that O is on the bisector line of $∠A$



1. $∆ABC$ is an isosceles triangle, AB=AC, AD is the median line of BC, the angular bisector of $∠ABC$ intersects with AD at E, $EF⊥AB$. Prove that EF=ED.



1. As in the graph, $BE⊥AC, CF⊥AB$, BD=CD. Prove that AD bisects $∠BAC.$



1. ABCD is a quadrilateral, $∠A=60°,∠B=∠D=90°$, AB=4, CD=2. Can you find the length of AD, BC?

