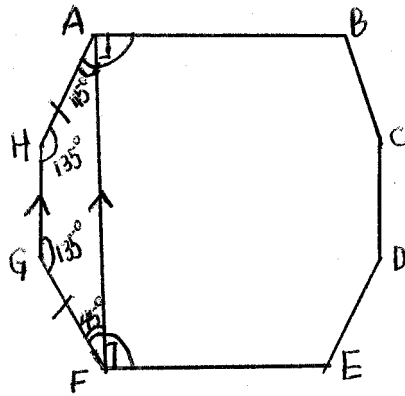


Given: ABCDEFGH is a regular polygon
 Angles BAF and AFE are right
 Prove: AFGH is an isosceles trapezoid



1. ABCDEFGH is reg. Octagon
2. Angles BAF and AFE are rt.
3. $\overline{HA} \cong \overline{GF}$
4. $\angle G \cong \angle H$
5. $\angle GFE \cong \angle HAB$
6. $\angle GFA \cong \angle HAF$
7. $m\angle H = 135$
8. $m\angle HAB = 135$
9. $m\angle FAB = 90$
10. $m\angle HAF = 45$
11. $\angle H$ supp. $\angle HAF$
12. $\overline{HG} \parallel \overline{AF}$
13. $\overline{HG}$ is a transversal
14. $\angle H$ not supp. $\angle G$
15. $\overline{HA} \parallel \overline{GF}$
16. AFGH is isosc. trap.

1. G
2. G
3. Def reg. polygon
4. Same as 3
5. Same as 3
6. Subtract. prop.
7. $\frac{\# \text{ of } \Delta's \cdot 180}{\# \text{ of sides}}$
8. Same as 7
9. Def. rt. $\angle$'s
10. Subtraction
11. Def supp. $\angle$'s
12. Int. $\angle$'s on same side of transversal supp. $\Rightarrow \parallel$
13. Diag.
14. Def. of supp. $\angle$'s
15. Int. $\angle$'s on same side of transversal not supp.
16. Def. Isosc. trapezoid (3, 12, 15)

□