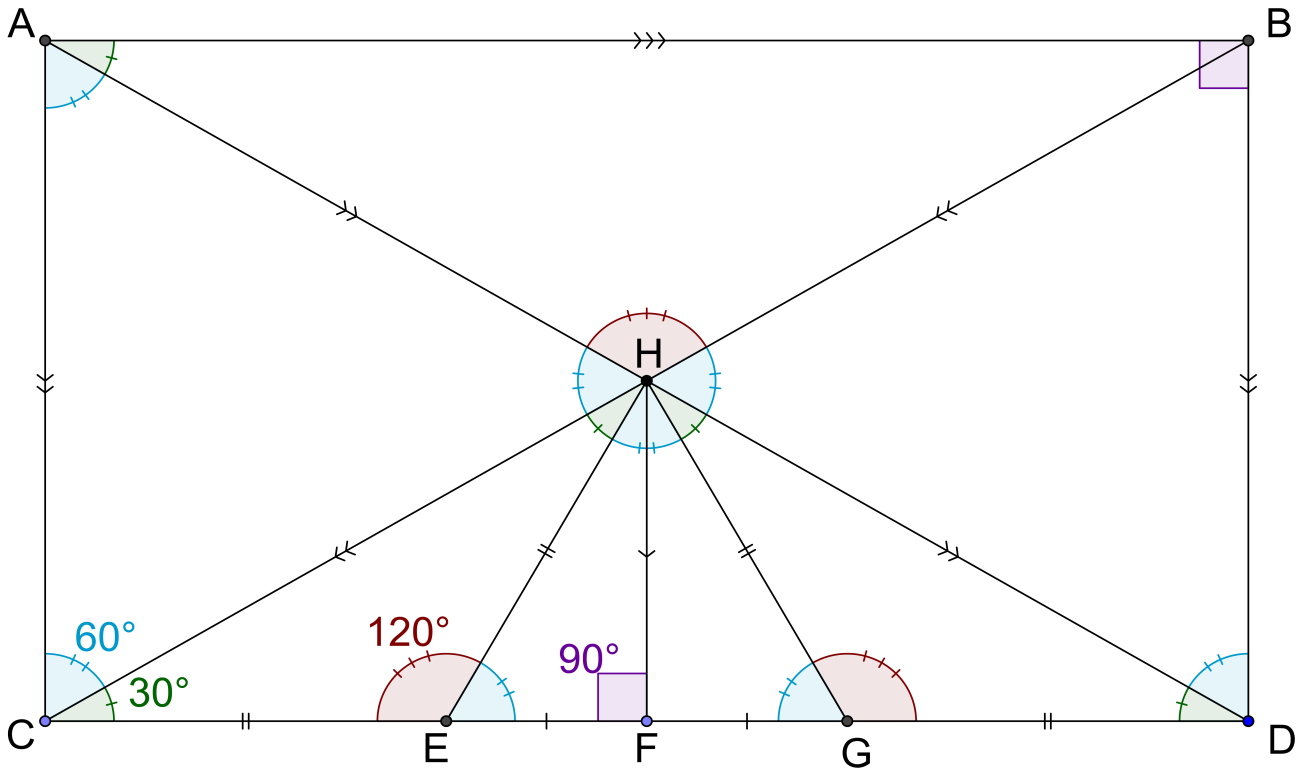
The Equisosceles Ratio



Statements	Reasons
1. ABCD is a rectangle	1. Given
2. Angle BCD is 30 degrees.	2. Given
3. Angle ADC is congruent to Angle BCD.	3. Reflexive Property of Rectangles
4. Angle CHD is 120 degrees.	4. Properties of Triangles
5. Triangle CDH is an Isosceles triangle.	5. Properties of Isosceles Triangle
6. Triangle ABH is congruent to Triangle CDH.	6. Reflexive Property of Rectangles
7. Angle ACH is 60 degrees.	7. Properties of Rectangle/Complimentary Angles
8. Angle CAH is 60 degrees.	8. Reflexive Property of Rectangles
9. Angle AHC is 60 degrees.	9. Properties of Triangles
10. Triangle ACH is Equilateral.	10. Properties of Equilateral Triangles
11. Triangle BHD is congruent to Triangle ACH.	10. Reflexive Property of Rectangles
12. Point F bisects Segment CD.	11. Properties of Isosceles Triangle
13. Angle CHE is 30 degrees.	13. Given
14. Angle CEH is 120 degrees.	14. Properties of Triangles
15. Triangle CEH is an Isosceles triangle.	15. Properties of Isosceles Triangles
16. Angle HED is 60 degrees.	16. Supplementary Angles
17. Angle DHG is 30 degrees.	17. Given
18. Angle DGH is 120 degrees.	18. Properties of Triangles
19. Triangle DGH is and Isosceles triangle.	19. Properties of Isosceles Triangles
20. Angle HGC is 60 degrees.	20. Supplementary Angles
21. Angle EHG is 60 degrees.	21. Properties of Triangles
22. Triangle EGH is Equilateral.	22. Properties of Equilateral Triangles
23. Segments CE, EH, EG, GH, and GD are equivalent.	23. Properties of Equilateral Triangles/ Properties of Isosceles Triangles
24. Segment AC is twice the length of Segment FH.	24. Properties of Isosceles Triangles
25. Segment FH is equal to the square root of Segment EH squared, minus Segment EF squared.	25. The Pythagorean Theorem
26. Rectangle ABCD may only be expressed in the following formula: $h=2\sqrt{((1/3b)^2-1/6b)^2)}$	26. The Pythagorean Theorem