



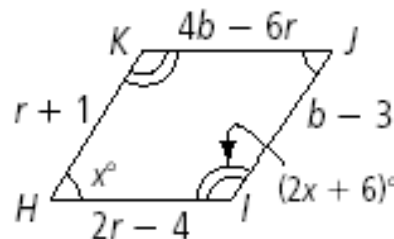
You have a total of four submissions to get this problem correct.

You must show all work to receive credit. Proofs must be typed. Type your answers in **BLUE** in to this document. Proofs MUST be submitted as a Word document.

Be sure to save your file with the correct filename!

PROOF 6B

Algebra Find the angle measures and the side lengths of the rhombus at the right.



1. What do you know about the sum of the angle measures of a quadrilateral?
2. Write an equation to represent the sum of the measures of each angle in this rhombus.
3. Based on the diagram, which pairs of angles are congruent?
4. What is the value of $m\angle H$ given in the diagram? Explain how you can use this value to rewrite the equation from Step 2. Rewrite the equation using this value.
5. What is the value of $m\angle I$ given in the diagram? Explain how you can use this value to rewrite the equation from Step 4. Rewrite the equation using this value.
6. Simplify and solve the equation.
7. $m\angle H = m\angle J = x =$
8. $m\angle I = m\angle K = 2x + 6 =$



NorthStar Academy – MATH200 Geometry – Proof 6B



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9. How can you check that your answer is correct?
10. What do you know about the sides of a rhombus?
11. What does your answer to Step 10 tell you about the expressions for the sides of the rhombus shown in the diagram?
12. Which two expressions in the figure contain the same variable?
13. How do these expressions relate to each other? Explain how you can use this relationship to find the value of r . Find the value of r .
14. How can you find the length of each side of the rhombus? What is the length of each side?