

Problem 2 – One Angle Bisector in a Triangle

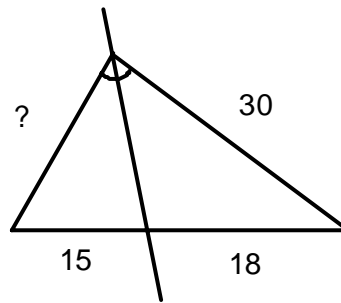
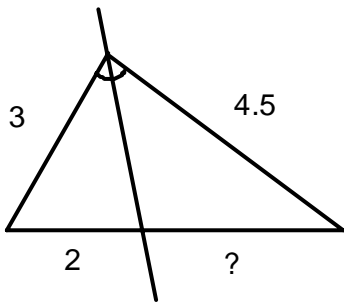
5. Record some of the measurements from page 2.2 after moving a vertex of $\triangle ABC$:

AB	AC	BD	CD

6. Identify a set of ratios that are equal to each other. Drag a vertex of the triangle to confirm your conjecture.

_____ = _____

7. **Apply The Math:** Use your proportion to find the missing values for each figure below:



Problem 3 – One Angle Bisector and the Incenter of a Triangle (optional)

8. What was the value of the ratio $\frac{DI}{DG}$? What was the value of the ratio $\frac{DE + DF}{P}$?
9. What happens to these values when a vertex of the triangle is dragged?
10. Show the hidden angle bisector of $\angle E$ or $\angle F$. Confirm that your conjecture is true for this other bisector. Drag a vertex of the triangle, and observe the results.

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