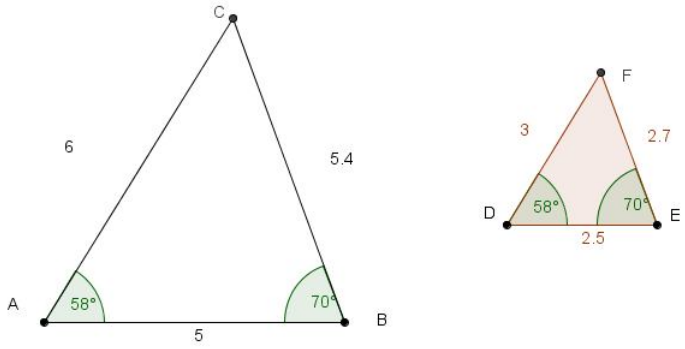
Student Activity Theorem 13

Use in connection with interactive file "Theorem 13" on the Student's CD.

To explore the relationship between the corresponding sides of similar triangles.



1. What do you notice about the angles in the triangles ABC and DEF?

2. Move the sliders angleA and angleB and state how the angles of the two triangles now relate?

3. Are the sides of the triangles equal?

4. What is the name for two triangles that have same angles, but not necessarily the same sides?

5. When you click the translation box, what do you notice?

6. When the translation box is clicked, what do you notice about the line segments AB and D1E1?

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7. What is the ratio of $\frac{|AC|}{|DF|}$? Show calculations. (Note the lengths in the interactive file are given correct to 1 decimal place, this may affect some calculations.)

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8. What is the ratio of $\frac{|B\ C\ |}{|E\ F\ |}$? Show calculations. (Note the lengths in the interactive file are given correct to 1 decimal place, this may affect some calculations.)

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9. What is the ratio of $\frac{|AB|}{|DE|}$? Show calculations.

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10. Move the sliders for the bases and watch the lengths change. Are the ratios still the same?

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11. From viewing the interactive file do you agree with the theorem "If two triangles are similar, then their sides are proportional, in order." Explain this statement in your own words.

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Challenge

12. Find the value of the length of all the sides of the following triangles.