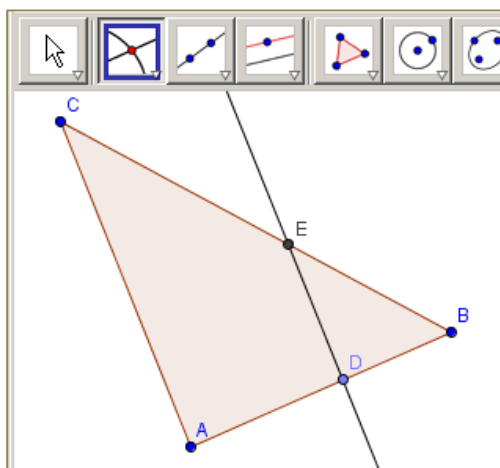


Similar triangles, student

Exploring the rule: Similar triangles are proportional

Draw a triangle. Place a point on one of the sides, and draw a line through this point parallel to one of the sides in the triangle.

Parallel line: Use the Parallel line tool



- 1) You now have two triangles. Explain why triangle ABC is similar to triangle DBE.
- 2) Measure the lengths of the sides in both triangles. Check if the rule stating that [the ratio between the lengths of corresponding sides in similar triangles is the same](#) applies.

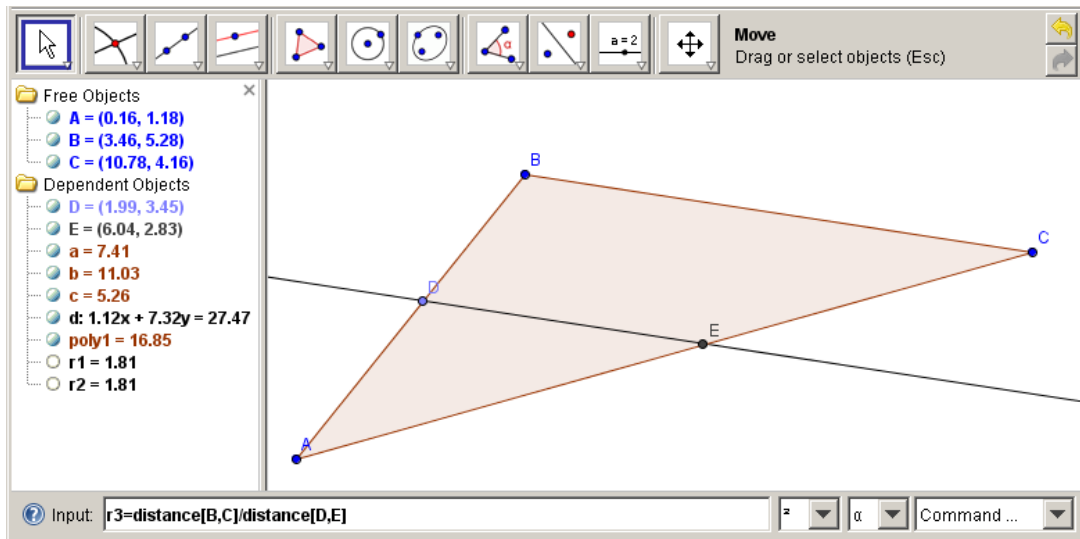
Measuring lengths: Use the *Distance or Length* tool.

Make the Algebra View visible: View on the menu-line.

Show names of points: Right-click on one of the points, choose Properties, in the list on the left side click on points, and check Show Label.

Calculate the ratio:

In the Input bar write: $r1=Distance[A,B]/Distance[A,D]$. AB and AD are corresponding sides in the two triangles. Repeat the command for the other two pairs of corresponding sides.



- 3) Change the shape of the triangle by moving the points you are able to move (use the *Move* tool). Are the triangles still similar? What happens to the ratios?

Calculate lengths

Your shadow is measured to be 1.34 m. Your height is 1.68 m. The shadow of a tall tree is measured to be 8.50 m. What is the height of the tree?

Draw a sketch which illustrates the problem and use the rule stating that similar triangles are proportional to solve it.