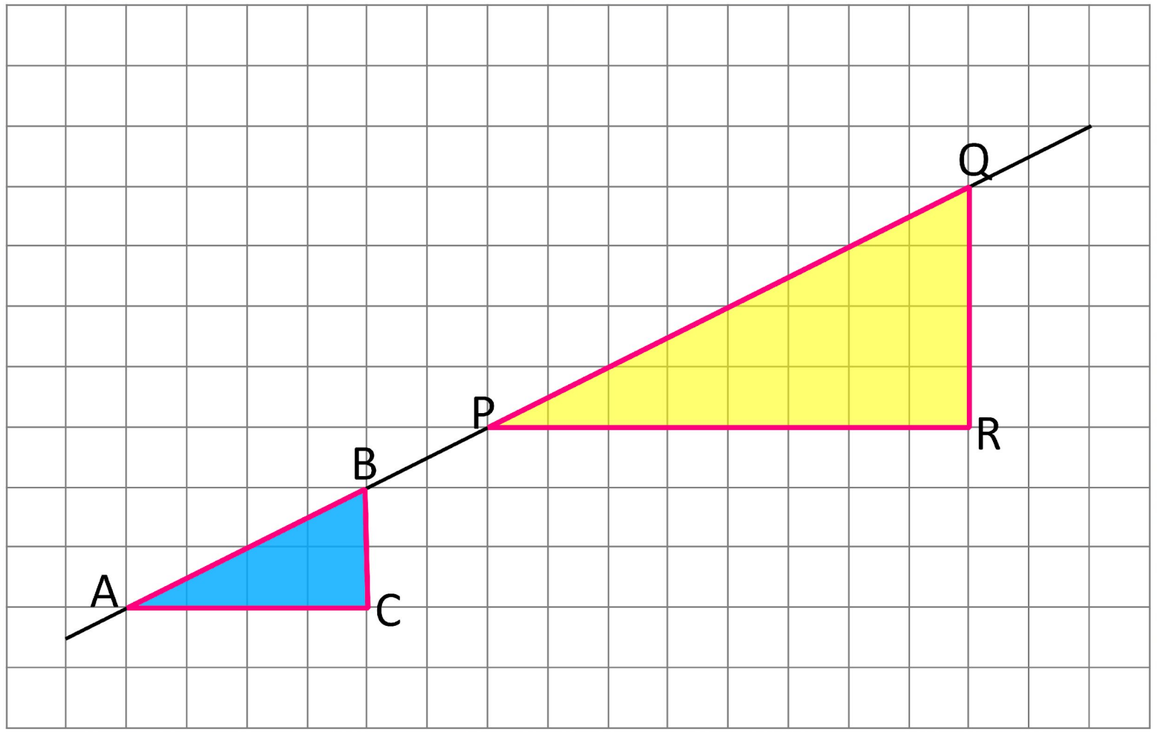
Mathematics

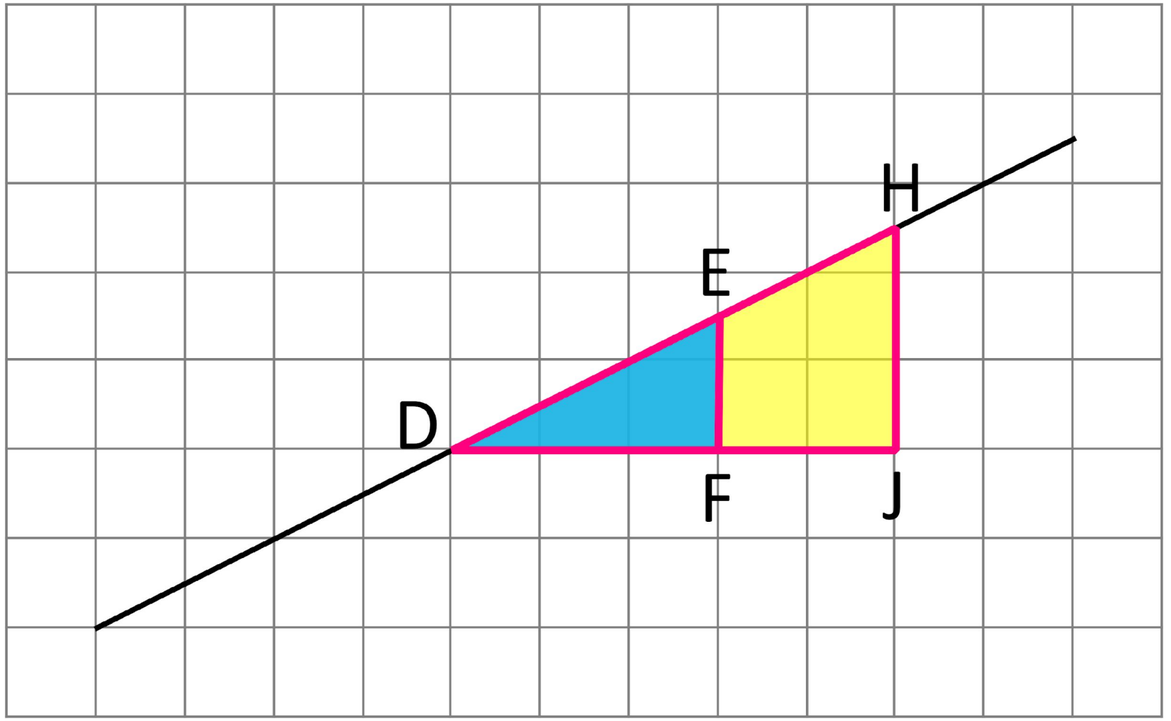
Nested Triangles
Lesson 7 of 8
Downloadable Resource

Miss Kidd-Rossiter

Try this

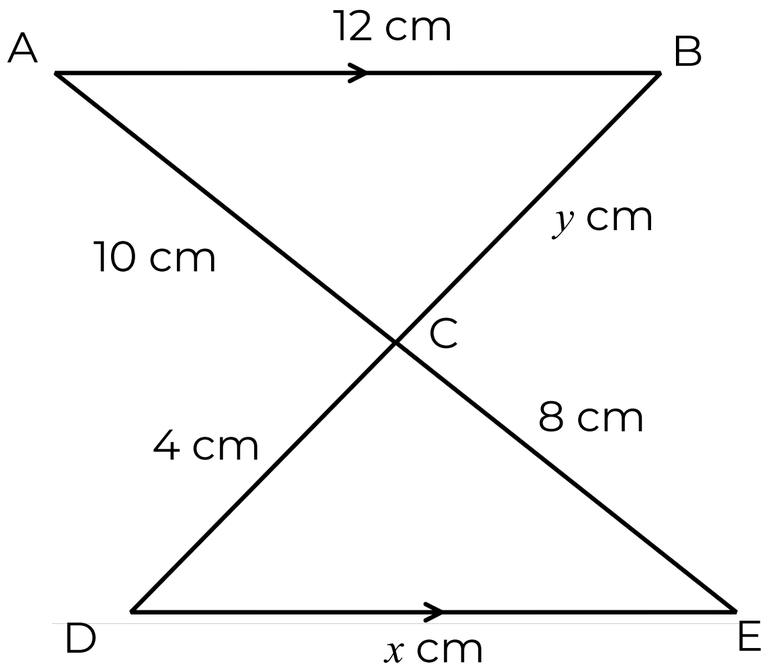
Find all the missing angles in the triangles





Connect

Explain why triangles ABC and DCE are similar.



Hint:

What do you know about angles ABC and CDE?

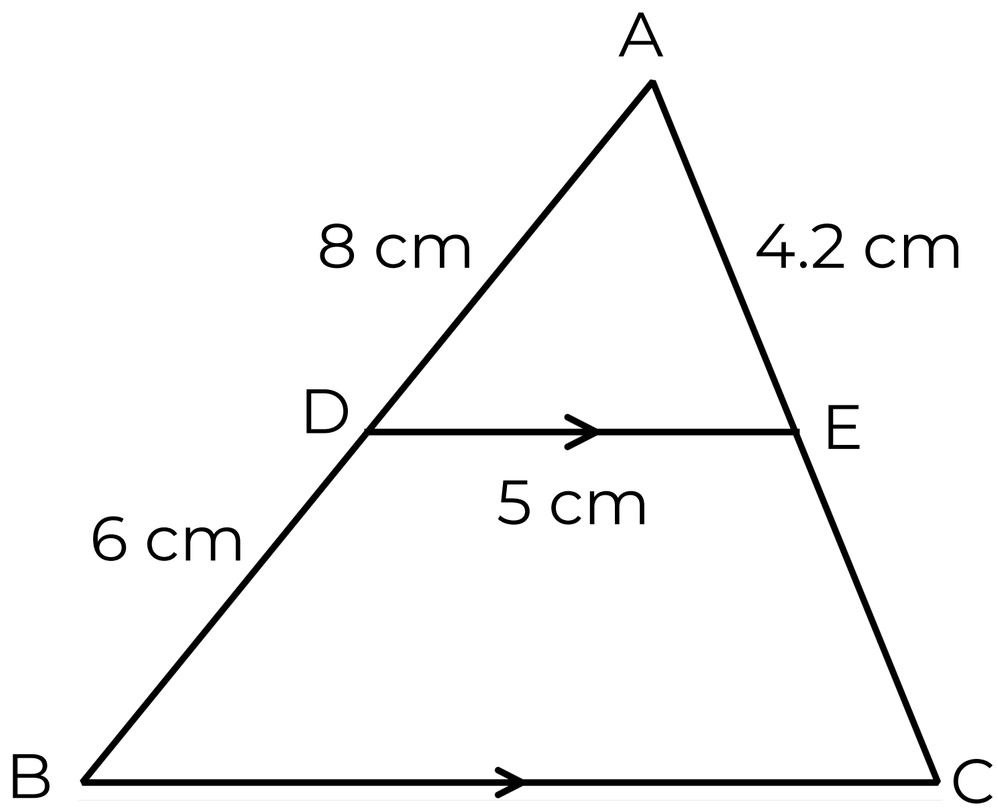
Find all of the missing lengths.

Connect

Are triangles ADE and ABC similar?

Explain how you know.

Find all the unknown lengths

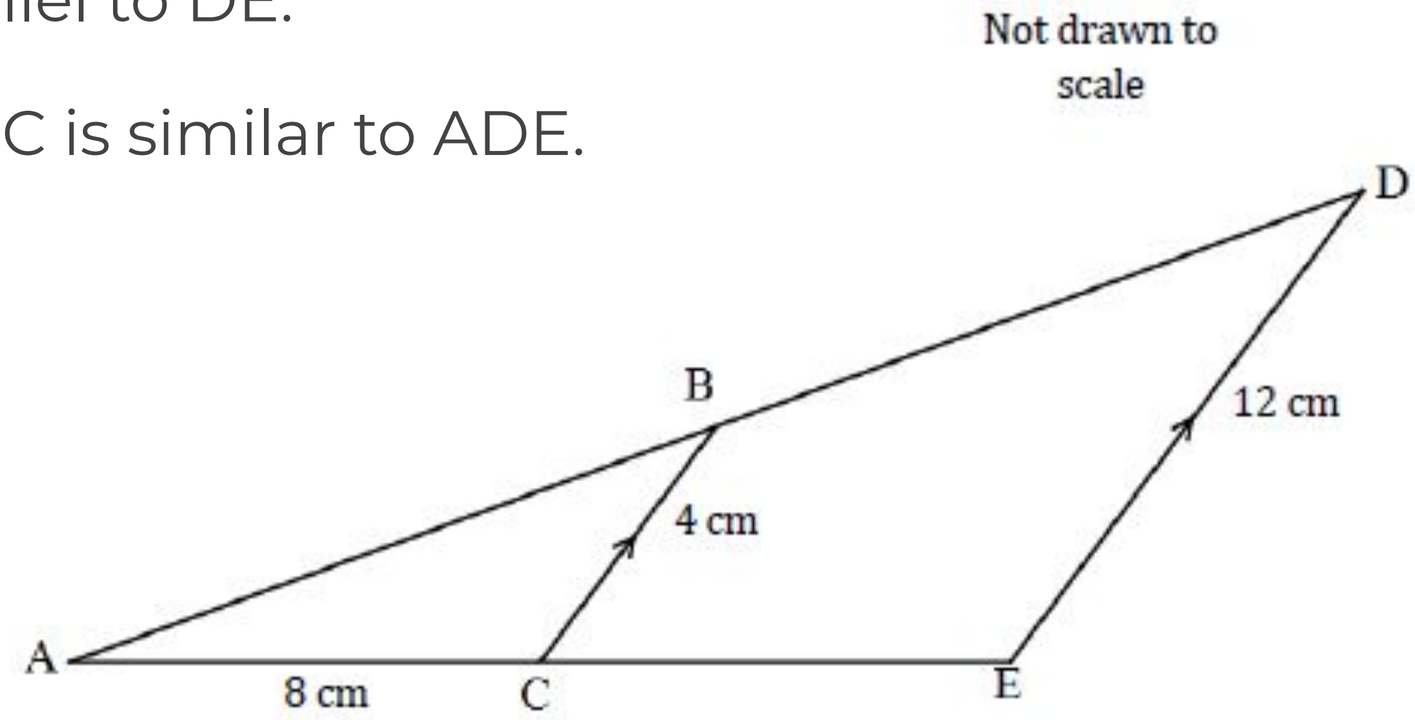


Independent task

1. In the diagram, BC is parallel to DE.

   a. Explain why triangle ABC is similar to ADE.

   b. Find the length CE



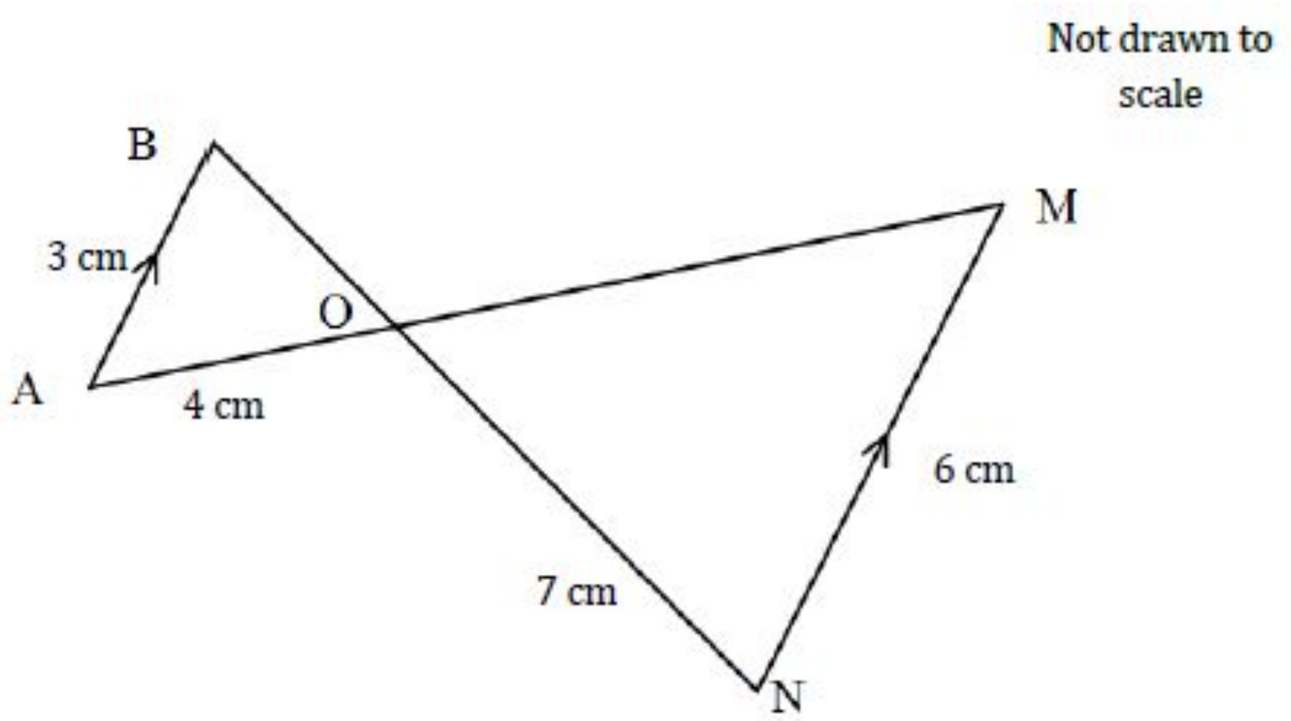
Independent task

2. Look at the diagram.

   a. Explain why triangle MNO is similar to ABO.

   b. Calculate the length of OM

   c. Calculate the length of OB



Explore

The diagram shows a circle of radius 4 and a circle of radius 8.

What are the coordinates of the other vertices of the triangles?

What would happen if the radius of the larger circle was increased to 10? 16? x?

Try drawing this diagram, what are the angles?