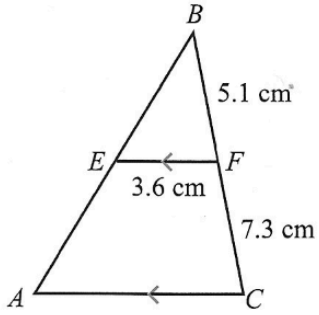
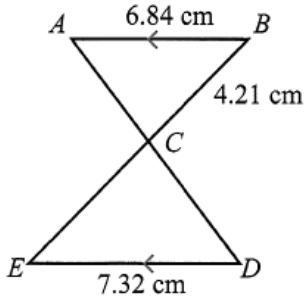
Year 10E – HL22 – Similar triangles

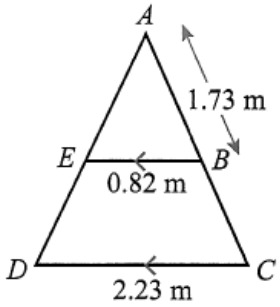
1. The diagram shows triangle ABC. If AC is parallel to EF, find the length of AC.



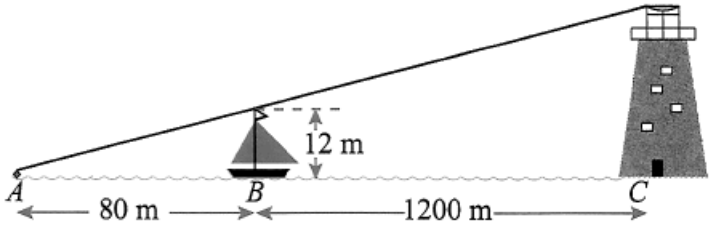
2 In the diagram AB is parallel to DE. Explain why triangle ABC is mathematically similar to triangle CDE and find the length of CE.



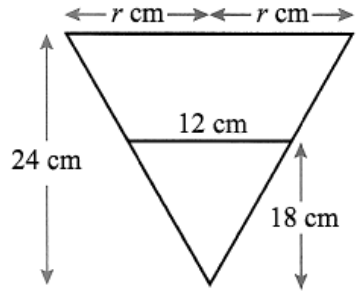
3. The diagram shows a part of a children's climbing frame. Find the length of BC.



4. Swimmer A and boat B, shown in the diagram, are 80 m apart, and boat B is 1200 m from the lighthouse C. The height of the boat is 12 m and the swimmer can just see the top of the lighthouse at the top of the boat's mast when his head lies at sea level. What is the height of the lighthouse?



5. The diagram shows a circular cone that has been filled to a depth of 18 cm. Find the radius r of the top of the cone.



6. The diagram shows a circular cone that has been filled to a depth of 18 cm. Find the radius r of the top of the cone.