10-4-10 Easter Revision: Targeting grades A and A*
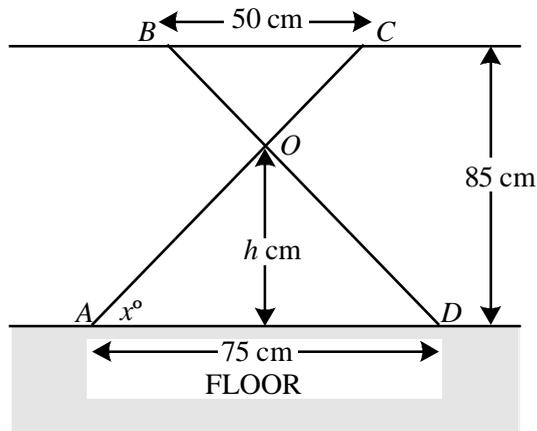
Day 6: Solve problems involving similar triangles

11. The diagram shows a simplified ironing board.

The feet A and D are 75 cm apart.
The supports at B and C are 50 cm apart.
The legs AC and BD are equal in length and are pivoted at O.
BC is parallel to AD.
The height of the ironing board above the floor is 85 cm.

(a)   Use similar triangles to calculate the height, h cm, of O above the floor.

....

....

....

(3)

(b)   Calculate the value of x, the angle between AC and the floor.

....

....

....

(3)

(c)   Calculate the length of AC.

....

....

....

(3)