

Date:

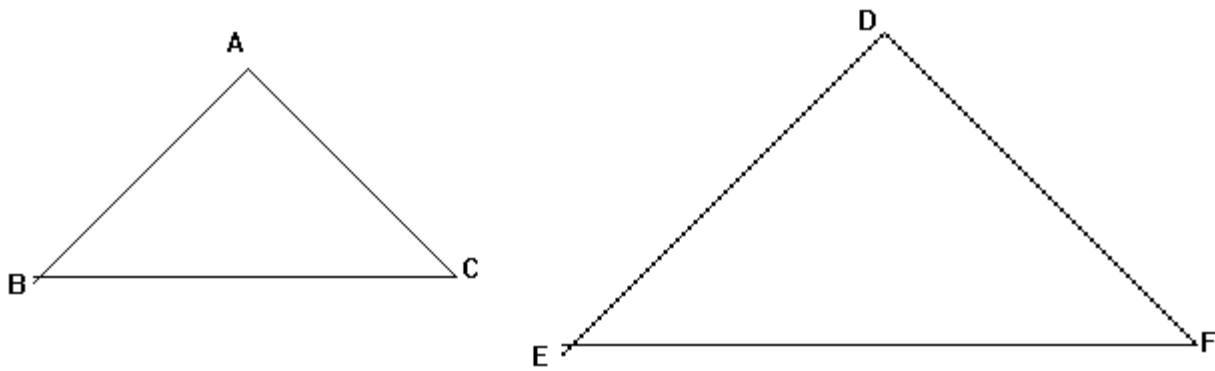
Title:

(A) **Lesson Objectives:**

- a. Review the definition of Similarity
- b. Present theorems to prove triangle similarity
- c. Work with similar triangles to solve for unknowns
- d. Apply similar triangles in word problems

(B) **Similarity:**

If 2 shapes (polygons or triangles) are similar, then one is an enlargement of the other. This means that the two shapes will have the same angles and their sides will be in the same proportion (for example, the sides of one triangle might all be 3 times the length of the sides of the other).



angle A = angle D

angle B = angle E

angle C = angle F

$AB/DE = BC/EF = AC/DF = \text{perimeter of ABC} / \text{perimeter of DEF}$

(C) **Similarity Postulates** → Two triangles are similar if any of the following is true:

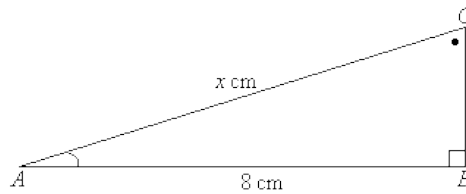
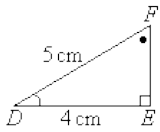
- 3 angles of 1 triangle are the same as 3 angles of the other (AAA)
- 3 pairs of corresponding sides are in the same ratio (SSS)
- An angle of 1 triangle is the same as the angle of the other triangle and the sides containing these angles are in the same ratio. (SAS)

Date:

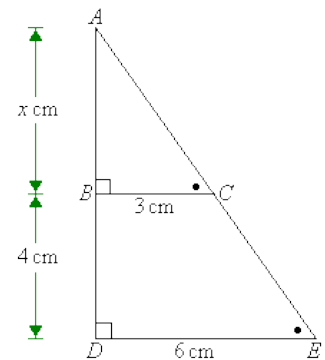
Title:

(D) **In class Examples**

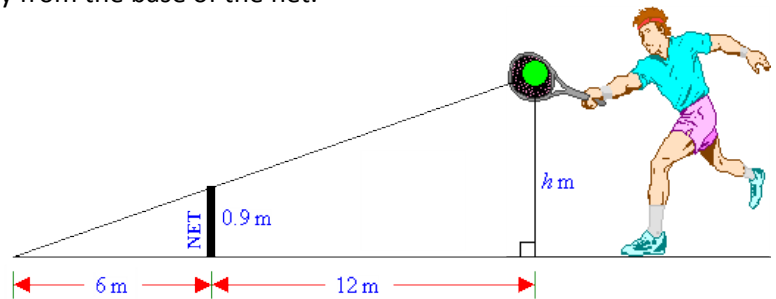
1. Find the value of x in the following pair of triangles.



2. Find the value of x in the following diagram.



3. Find the value of the height, $h\text{ m}$, in the following diagram at which the tennis ball must be hit so that it will just pass over the net and land 6 metres away from the base of the net.



(E) **Work Sheets:**

- (1) <http://www.kutasoftware.com/FreeWorksheets/GeoWorksheets/7-Similar%20Triangles.pdf>
(2) <http://cherylvoell.com/WORKSHEETS/SIMILARITY/worksheetsimilartriangles.pdf>

(F) **Video Links for Help**

- a) <http://www.onlinemathlearning.com/similar-triangle-proof.html>
b) <http://www.onlinemathlearning.com/similar-triangle-proof-2.html>