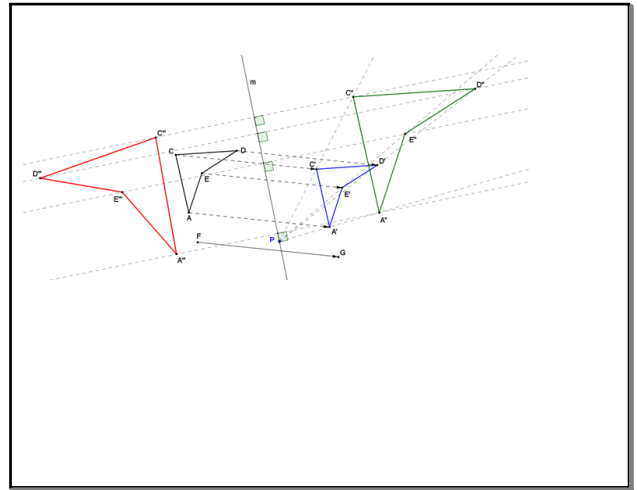
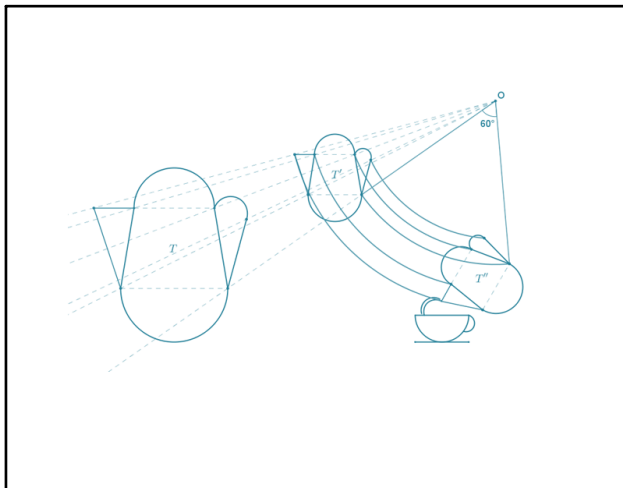


3/22 Aim: Criterion for triangles to be similar
 Do Now Take out your homework.
 Get a calculator.
 Homework complete worksheets.
 Quiz Wednesday

Jan 7-10:39 AM



Jan 7-12:38 PM



Jan 7-12:38 PM

homework

Mar 24-2:49 PM

The notation for similar is:
 \sim

Jan 7-11:41 AM

What does it mean for figures to be similar?
 - Corresponding angles are \cong
 - All corresponding sides are in proportion.

Jan 7-10:42 AM

Since this is the case, that means due to the possibility of a dilation,
 ALL Corresponding angles are \cong
 AND
 ALL Corresponding sides are in proportion.
 This is going to be at the heart of everything we do with Similarity!!!
 These facts are true for ALL types of polygons or figures, but we are going to focus on Triangles.

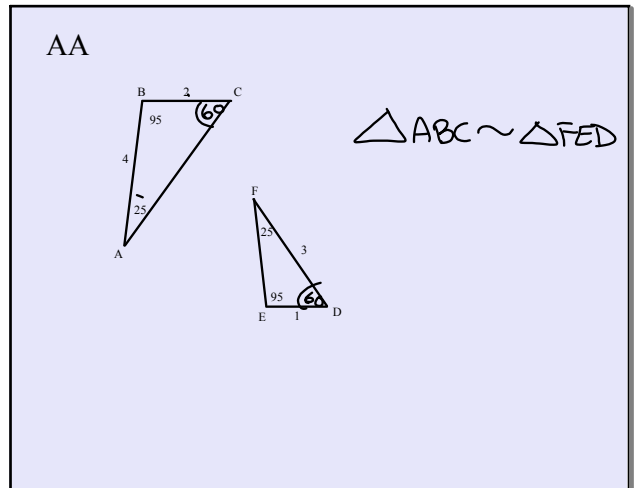
Jan 7-10:44 AM

There are 3 Different Criteria for which we can say 2 Triangles are Similar

Jan 7-10:45 AM

1. _____
 Are the triangles shown below similar?
 Explain. If the triangles are similar identify any missing angle and side length measures.
<http://tube.geogebra.org/student/m164263>

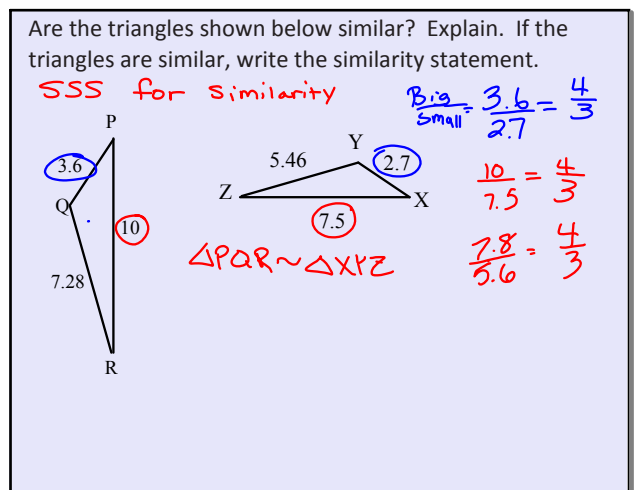
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2. _____
<http://tube.geogebra.org/student/m350415>

Jan 7-10:52 AM



Jan 7-11:01 AM

3. _____

<http://tube.geogebra.org/student/m350409>

Jan 7-11:02 AM

Are the triangles shown below similar? Explain. If the triangles are similar, write the similarity statement.

SAS for similarity

$\frac{3}{1.5} = 2$
 $\frac{3.13}{1.565} = 2$

Jan 7-11:04 AM

The 3 Similarity Criterion.....

Jan 7-11:04 AM

- Given only information about the angles of a pair of triangles, how can you determine if the given triangles are similar?
 - *The AA criteria can be used to determine if two triangles are similar. The triangles must have two pairs of corresponding angles that are equal in measure.*

Jan 7-11:06 AM

- Given only information about one pair of angles for two triangles, how can you determine if the given triangles are similar?
 - *The SAS criteria can be used to determine if two triangles are similar. The triangles must have one pair of corresponding angles that are equal in measure, and the ratios of the corresponding adjacent sides must be in proportion.*

Jan 7-11:06 AM

- Given no information about the angles of a pair of triangles, how can you determine if the given triangles are similar?
 - *The SSS criteria can be used to determine if two triangles are similar. The triangles must have three pairs of corresponding side lengths in proportion.*

Jan 7-11:06 AM

<http://tube.geogebra.org/student/m35621>

Jan 7-11:07 AM

(1) Are the triangles shown below similar? Explain. If the triangles are similar, write the similarity statement.

Not Similar
Since corres. Sides are not in prop.

$$\frac{1}{.68} = \frac{25}{17}$$

$$\frac{6.4}{2.4} = \frac{320}{121}$$

$$\frac{5.83}{2.13} = \frac{583}{213}$$

Jan 7-11:07 AM

(2) Given each of the triangles shown below, state if they are similar or not. Explain. If the triangles are similar, write the similarity statement.

(a)

$\angle A \cong \angle A$
Reflexive

$\triangle ABC \sim \triangle ADE$ b/c AA

Jan 7-11:08 AM

(2) Given each of the triangles shown below, state if they are similar or not. Explain. If the triangles are similar, write the similarity statement.

(b)

Not ~

$$\frac{3}{1} = 3$$

$$\frac{5}{3} = \frac{5}{3}$$

Jan 7-11:08 AM

(2) Given each of the triangles shown below, state if they are similar or not. Explain. If the triangles are similar, write the similarity statement.

(c)

$\frac{2.82}{1.41} = 2$
 $\frac{7}{3.5} = 2$
 $\frac{5.4}{2.7} = 2$
 $\triangle ABC \sim \triangle A'B'C'$

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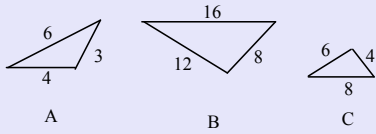
(d)

$\frac{6.32}{3.16} = 2$
 $\frac{4.48}{2.24} = 2$
 $\triangle AEB \sim \triangle DEC$
by SAS

Jan 7-11:10 AM

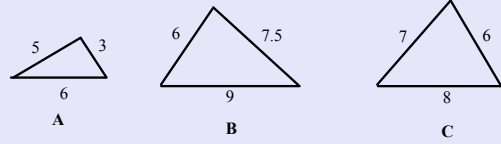
1. For each part (a) through (d) below, state which of the three triangles, if any, similar and why.

a.



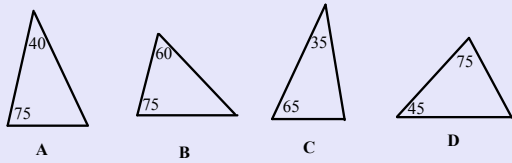
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b.

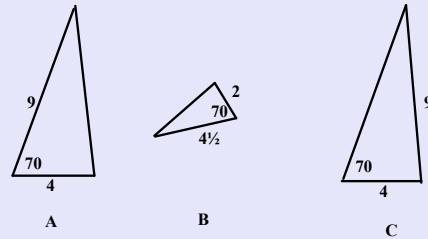


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c.

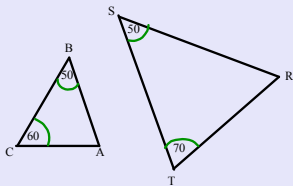


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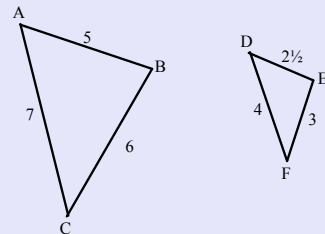


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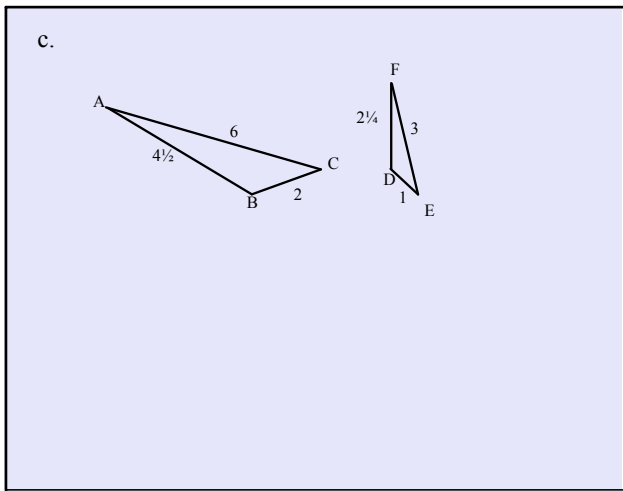
2. For each given pair of triangles, determine if the triangles are similar or not, and provide your reasoning. If the triangles are similar, write a similarity statement relating the triangles.



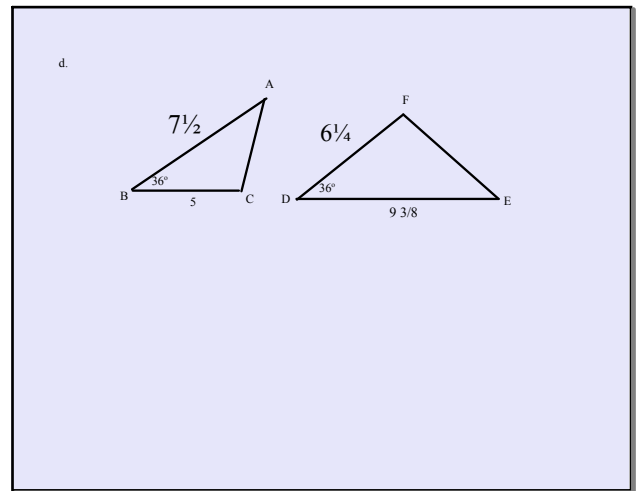
Jan 7-11:10 AM



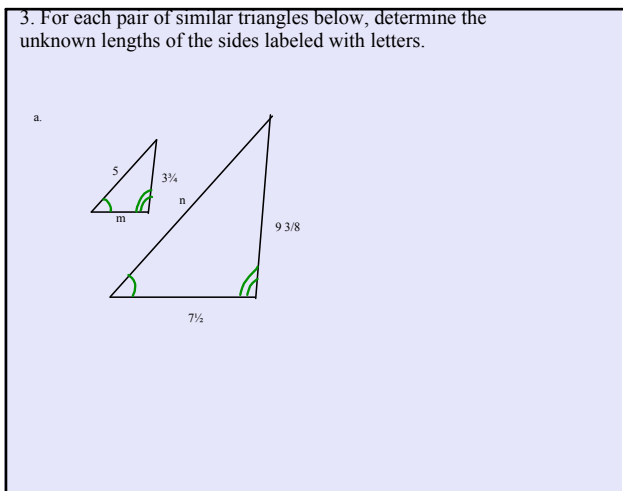
Jan 7-11:10 AM



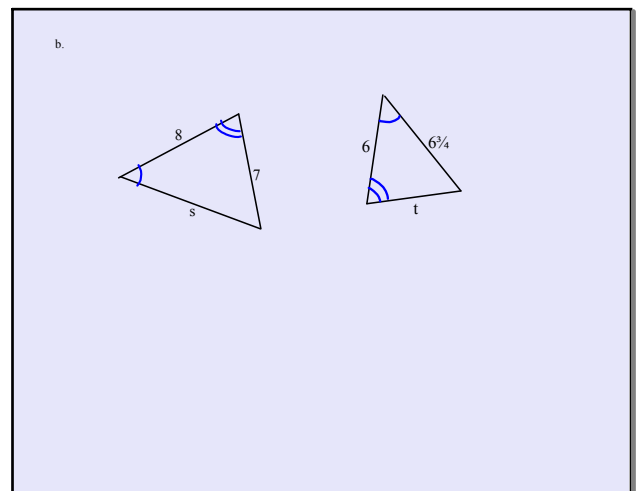
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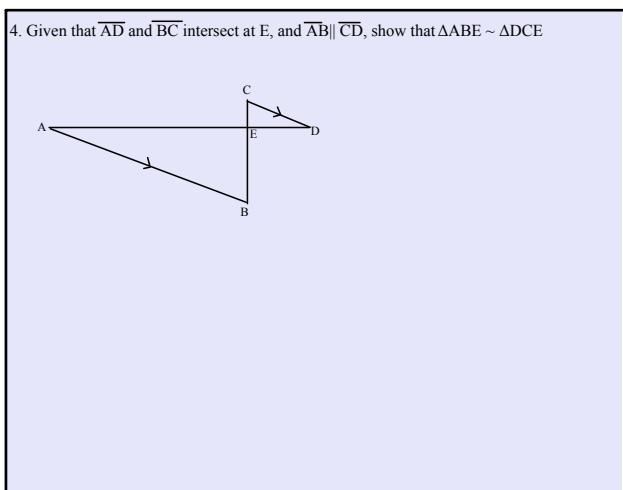
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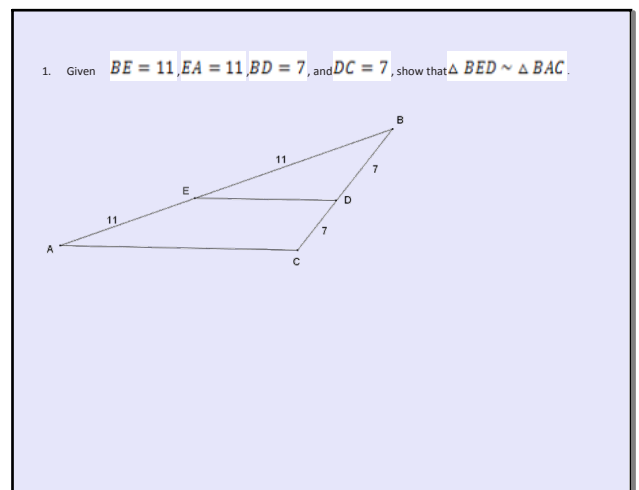
Jan 7-11:10 AM



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Jan 7-11:10 AM



Jan 7-11:10 AM

1. Given the diagram below X is on \overline{RS} and Y is on \overline{RT} , $XS = 2$, $XY = 6$, $ST = 9$, and $YT = 4$.

2. Show that $\triangle RXY \sim \triangle RST$.
 b. Find RX and RY .

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