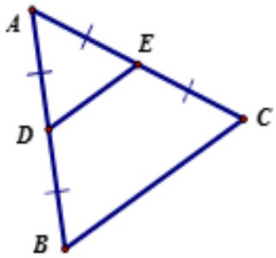
Do Now

Happy Monay. Work on your Do Now.

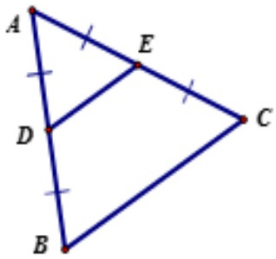
Calculators / Guided notes

8. $\overline{DE}$ is the mid-segment of ΔABC. Which of the following is a false statement?



A) DE = 2BC B) AD = EC C) 2DE = BC
D) ∠B ≅ ∠C

9. $\overline{DE}$ is the mid-segment of ΔABC. If DE = 7.4 cm, then



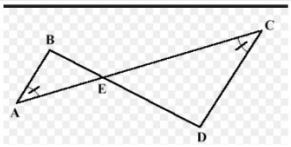
A) BC = 14.8 cm B) AD = 7.4 cm

C) AB = 14.8 cm D) m∠B = 14.8°

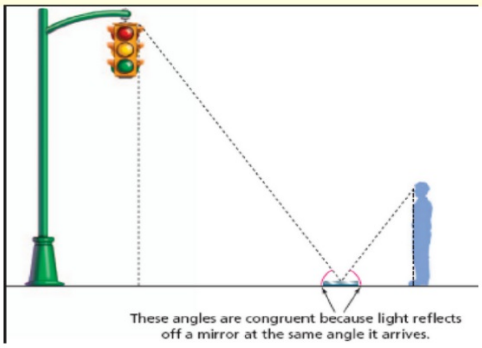
Agenda!

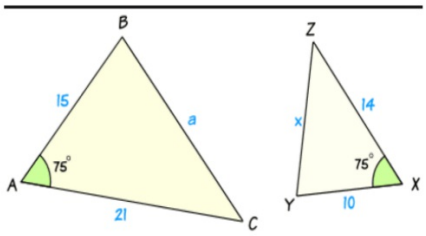
1. Review of scale factor and how it relates to similarity.
2. Proportions and AA postulate.
3. Independent Practice.

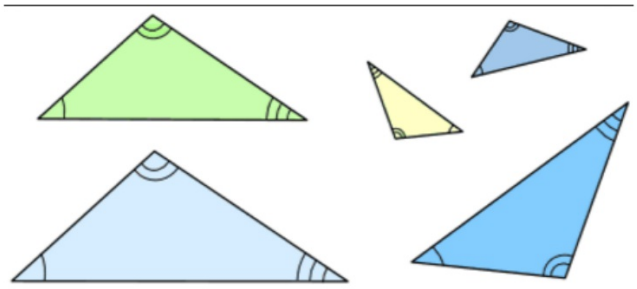
Similar Triangles

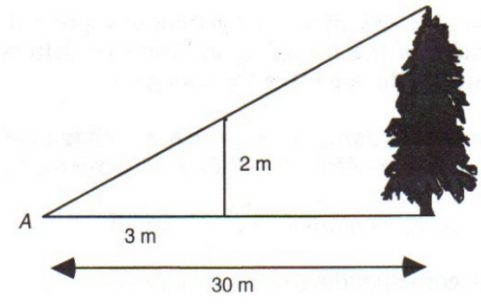


Definition: Two triangles are **similar** if and only if the corresponding sides are in proportion and the corresponding angles are congruent.







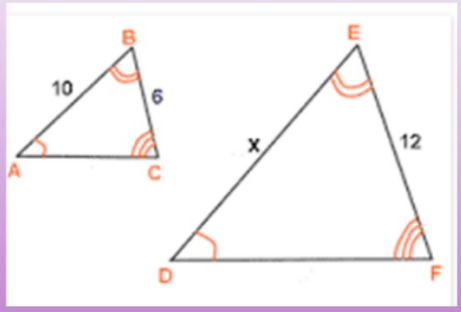


Congrunt triangles have corresponding parts with angle measures that are the same and side lengths that are the same.

Similar triangles have the same shape, but may be different in size.

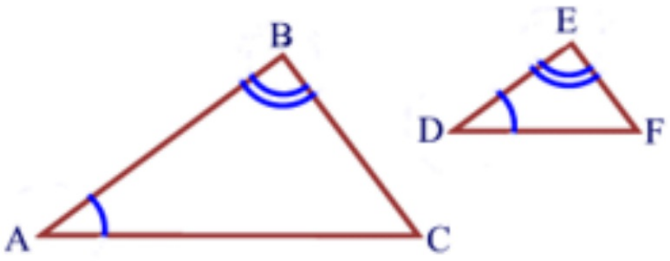
It is possible for two triangles to be similar but not congruent.

Determining similarity is based on the angle measures and lengths of the sides of the triangles.



There are THREE accepted methods for proving similar triangles

AA: If two angles of one triangle are congruent to two angles of another triangle, the triangles are similar.

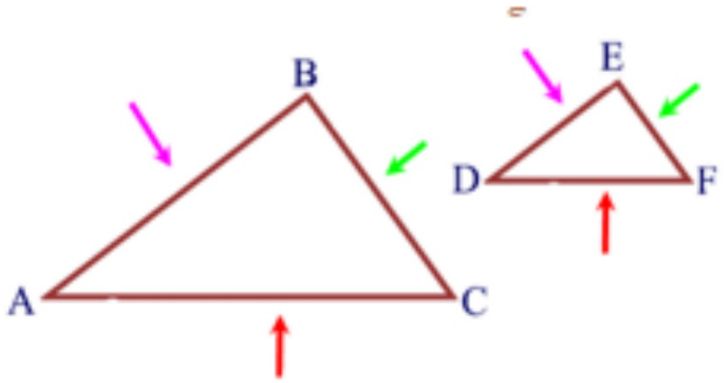


If: $\measuredangle A \cong \measuredangle D$

$\measuredangle B \cong \measuredangle E$

Then: $\Delta ABC \sim \Delta DEF$

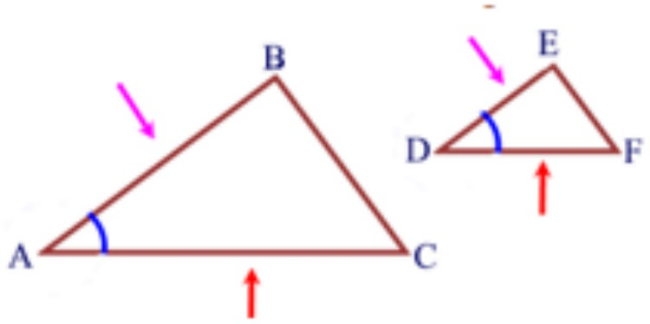
SSS: If the three sets of corresponding sides of two triangles are in _____, the triangles are similar.



If: $\frac{AB}{DE} = \frac{AC}{DF} = \frac{BC}{EF}$

Then: $\Delta ABC \sim \Delta DEF$

SAS: If an angle of one triangle is congruent to the corresponding angle of another triangle and the lengths of the sides including these angles are in _____, the triangles are similar.

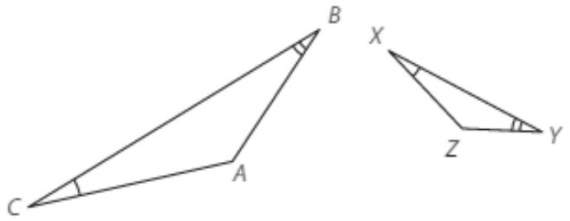


If: $\measuredangle A \cong \measuredangle D$

$$\frac{AB}{DE} = \frac{AC}{DF}$$

Then: $\Delta ABC \sim \Delta DEF$

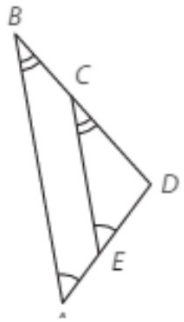
1.



Similar?

Criteria?

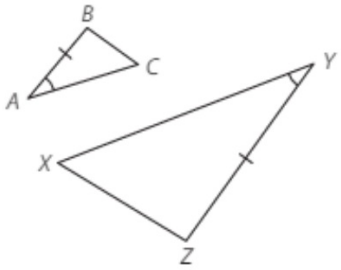
2.



Similar?

Criteria?

3.

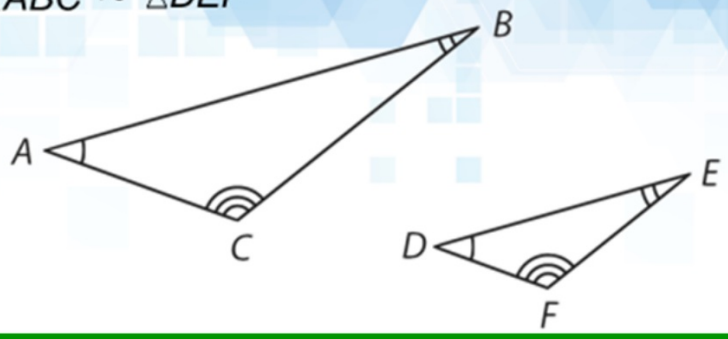


Similar?

Criteria?

- Observe the diagrams of $\triangle ABC$ and $\triangle DEF$.
- The symbol for similarity ($\sim$) is used to show that figures are similar.

$\triangle ABC \sim \triangle DEF$



Definition:

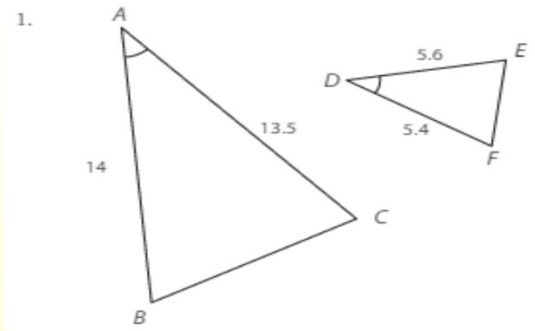
$\angle A \cong \angle D$

$\angle B \cong \angle E$

$\angle C \cong \angle F$

$$\frac{AB}{DE} = \frac{BC}{EF} = \frac{AC}{DF}$$

1.



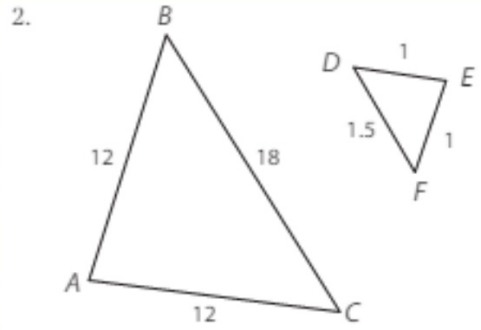
Similar?
How?

Criteria?

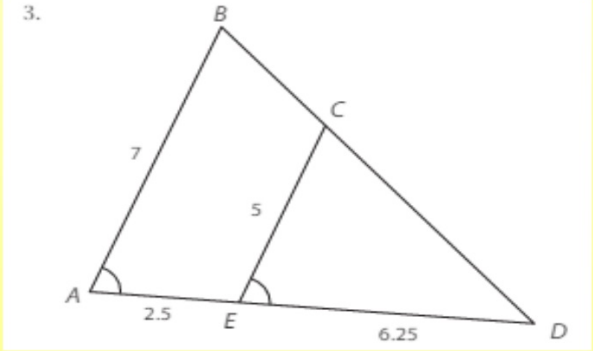
Similar?
How?

Criteria?

2.



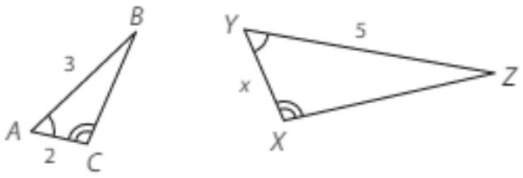
3.



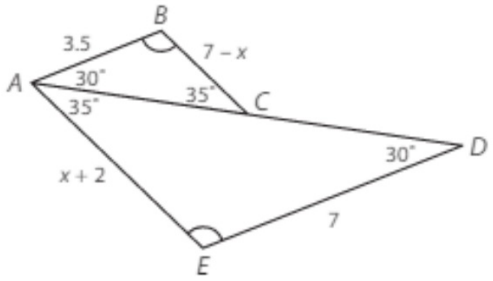
Similar?
How?

Criteria?

4.



5.



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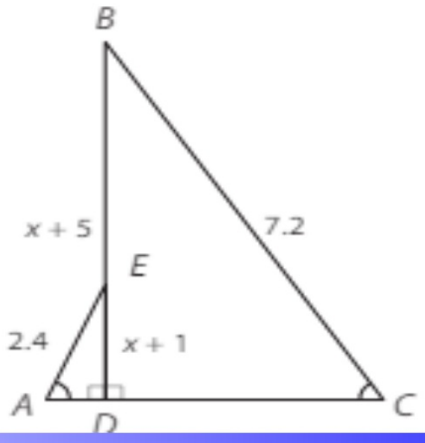

Common Misconceptions

- Incorrectly identifying corresponding parts of triangles
- Assuming corresponding parts indicate congruent parts
- Assuming alphabetical order indicates congruence
- Changing the order of named triangles, causing parts to be incorrectly interpreted as congruent

Independent Practice

1. In Class Activity 05/01/17 - 3RD & 4TH BLOCK ONLY
Do only #1-8

2. You have 30 minutes to complete the activity.

3. Solutions in the back. Show ALL work.

4. Once you're finished, let Mr. Kim know.

Expectations:

- You may work with a partner.
- Raise your hand if you have a question.
- Finish the assignment.

Independent Practice

Complete the independent practice on your own

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Congrunecy

Similarity