EQ: SRT.2 How do I determine if two triangles are similar?

Essential Question Essential Question Essential Question Essential Question Essential Question Essential Question Essential Question

Week 2, Lesson 1

1. Warm Up
2. SRT.1 Quiz
3. TI-NSpire activity
4. Notes
5. Lef-side practice
6. Closure

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Similar Triangles

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Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up

Warm Up:

To prepare for the quiz, take a minute to review your notes and the left-side practices on pages 8-9 and pages 10-11 of your interactive notebook. Then, answer the following questions.

1. Do you know how to graph coordinates?
2. Do you know how to apply a dilation?
3. Do you know how to find the slope of segments?
4. Do you know how to find the lengths of segments?
5. Do you know how to find ratios?

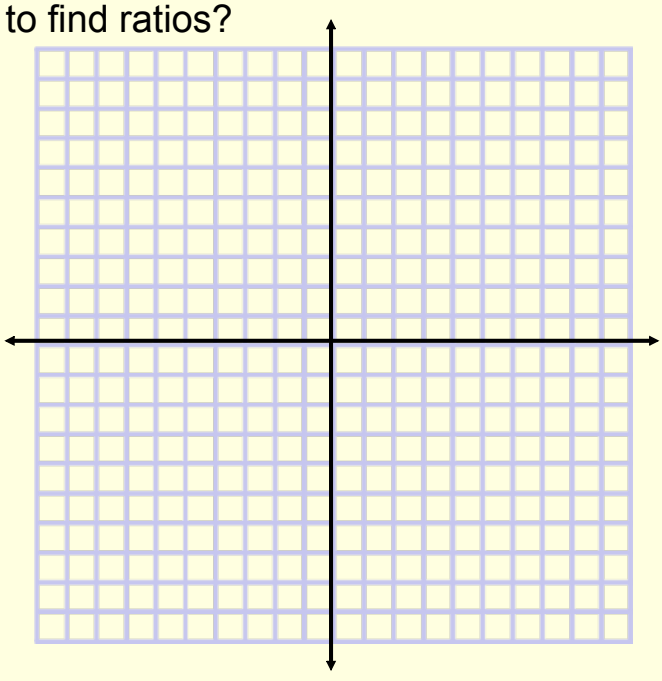
A(2, -2) and B(-2, 4)

(x,y) --> (2.5x, 2.5y)

$\frac{\text{Rise}}{\text{Run}}$

$a^2 + b^2 = c^2$

$\frac{A'B'}{AB}$



SRT.1 Quiz

TI-NSpire Activity

Similar Triangles

NOTES:

--> To move between split screens, press Ctrl and then tab.

--> To move to the next page (from 1.1 to 1.2), press Ctrl and then the Right Arrow

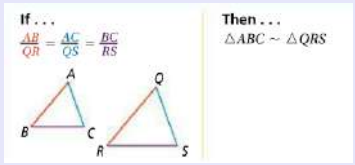
Post TI-NSpire Review...

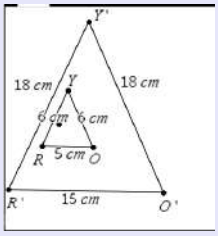
List everything you can remember about congruent triangles from Semester 1.

Side-Side-Side Similarity

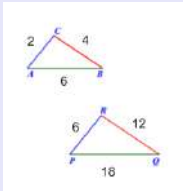
SSS~

If the corresponding sides of 2 triangles are proportional, then the triangles are similar





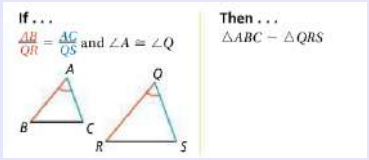
Ex: Are the two triangles similar? If so explain why and provide a similarity statement. If not, explain why.



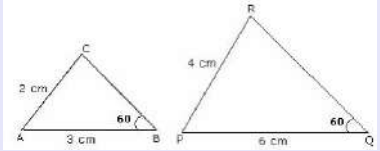
Side-Angle-Side Similarity

SAS~

If an angle of 1 triangle is congruent to another and the sides that include those angles are proportional, then the triangles are similar



Ex: Are the two triangles similar? If so explain why and provide a similarity statement. If not, explain why.



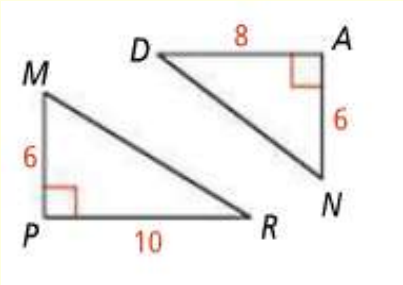
*In similar triangles, **SIDES** are **PROPORTIONAL** and *ANGLES* are *CONGRUENT*

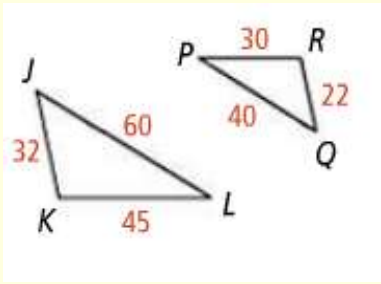
Summary:

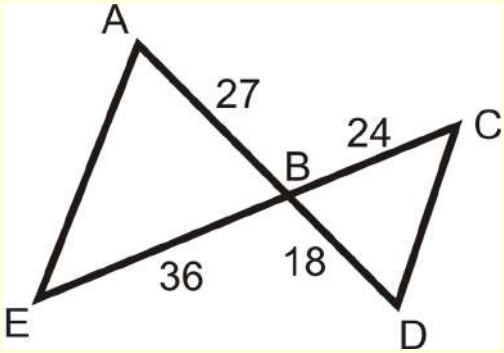
Left-Side Practice

For each of the following pairs of triangles...

Are the two triangles similar? If so, explain why and provide a similarity statement. If not, explain why. Show all of your work.







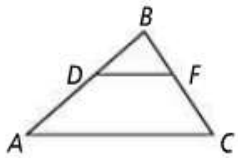
Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure

Right Side...

Write a summary that answers the essential question.

Left Side...

$\triangle ABC \sim \triangle DBF$. Complete each statement.



7. $m\angle A = m\angle$?

8. $\frac{AB}{DB} = \frac{BC}{\blacksquare}$

EQ: SRT.2 How do I determine if two triangles are similar?

Essential Question Essential Question Essential Question Essential Question Essential Question Essential Question Essential Question

Week 2, Lesson 2

1. Warm Up
2. Similarity activity
3. Practice
4. Closure

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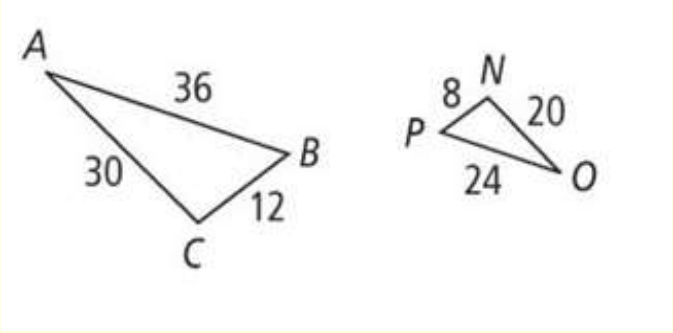
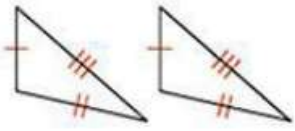
Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up

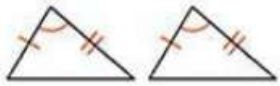
Warm Up:

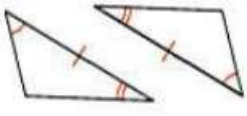
1. Are the two triangles shown below similar? If so, explain why and provide a similarity statement. If not, explain why. Show all of your work.



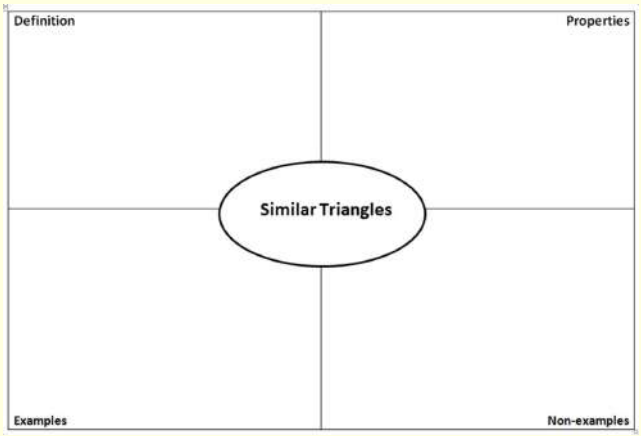
How can you prove that the triangles are congruent?

62. 

63. 

64. 

Exploring Triangle Similarity



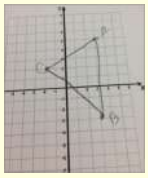
1. Draw a triangle on the coordinate plane.

Person 1 draws an obtuse triangle.

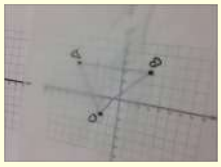
Person 2 draws an acute triangle.

Person 3 draws a right triangle.

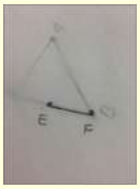
Person 4 chooses one of the above to draw



2. Copy your triangle onto a sheet of patty paper. Label the vertices A, B, and C so you have a congruent copy of your original triangle.



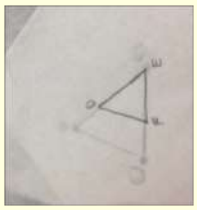
3. Using another sheet of patty paper, draw a line segment with a length exactly 1/2 of BC and label the segment endpoints E and F.

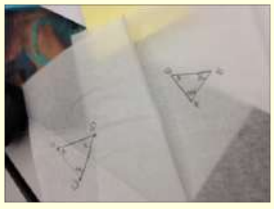


4. Copy angle B from the original triangle onto the new line segment at endpoint E.

5. Copy angle C from the original triangle onto line segment at endpoint F.

6. Extend the lines to form a new triangle, label it DEF.





7. Mark the triangles to indicate that..

- angle B is congruent to angle E
- angle C is congruent to angle F

Questions! (Left-Side)

1. Compare the two triangles: What do you notice? What is observed? List your observations.

2. Write down congruency statements for the corresponding angles.

3. Write down proportionality statements for the corresponding sides.

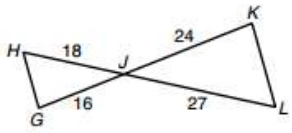
4. Can we conclude that Triangles ABC and DEF are similar? How do you know?

Name _____ pd _____ IAN.page 12

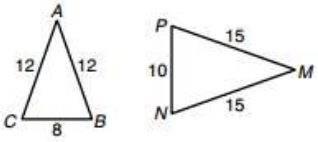
SSS~ and SAS~ Practice

For each of the pair of triangles shown below, determine if the two triangles are similar. If so, explain why and provide a similarity statement. If not, explain why. Show all of your work.

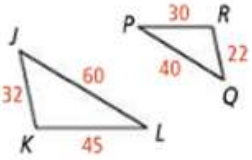
1.



2.



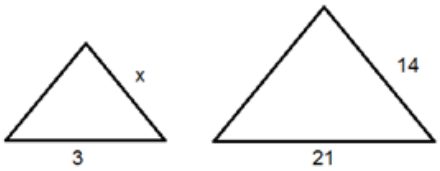
3.



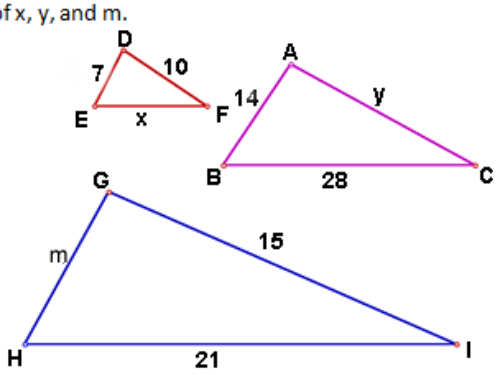
_____ _____ _____

_____ _____ _____

4. Given that the triangles shown at the right are similar, find the value of x.



5. Given that all of the triangles shown below are similar, find the value of x, y, and m.



Midterm Review...

6. $\triangle ABC$ is dilated, with the center of dilation at the origin, to form $\triangle A'B'C'$. Which of the following statements may be **false**?

(a) $\angle ABC \cong \angle A'B'C'$ (b) $\triangle ABC \cong \triangle A'B'C'$ (c) $\triangle ABC \sim \triangle A'B'C'$ (d) $\frac{AB}{A'B'} = \frac{AC}{A'C'}$

7. Two polygons are similar if their corresponding angles are _____ and their corresponding sides are _____.

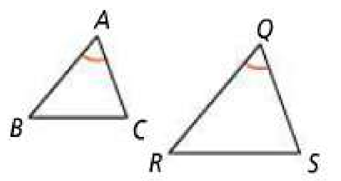
Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure

Right Side...

Write a summary that answers the essential question.

Left Side...

Is there enough information to prove the following 2 triangles similar? If so, how? If not, what additional information is needed?



EQ: SRT.3 How do I prove triangles similar using AA~?

Essential Question Essential Question Essential Question Essential Question Essential Question Essential Question Essential Question

Week 2, Lesson 3

1. Warm Up
2. TI-NSpire activity
3. Notes
4. Left-Side Practice
5. Closure

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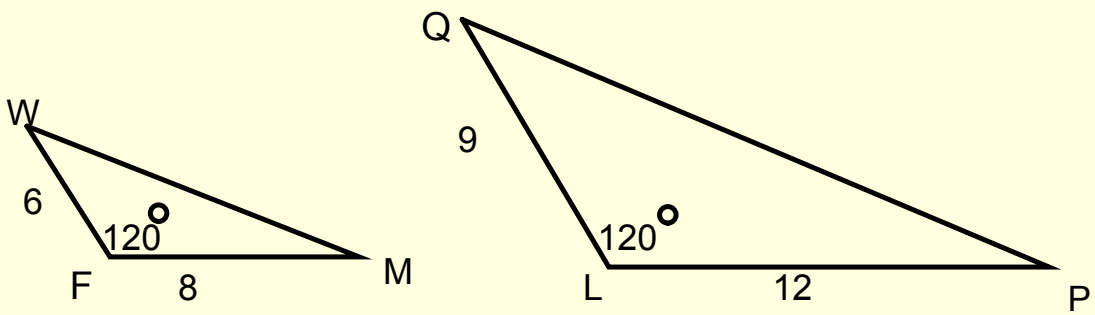
Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up

Warm Up:

Are the two triangles shown below similar? If so, explain why and write a similarity statement. If not, explain why.



TI-NSpire Activity

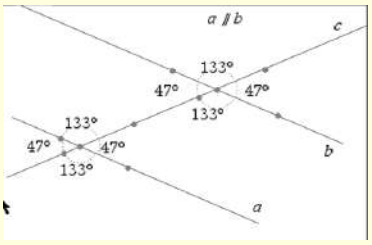
1st Semester Review

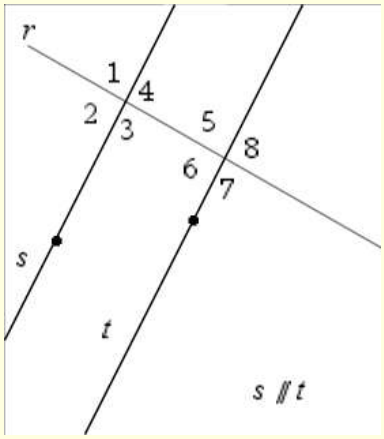
NOTES:

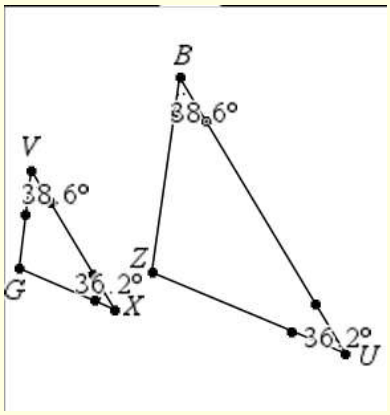
--> To move between split screens, press Ctrl and then tab.

--> To move to the next page (from 1.1 to 1.2), press Ctrl and then the Right Arrow

Post TI-NSpire Review...

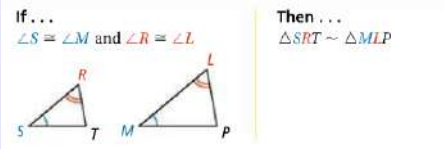


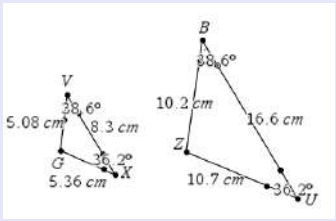




notes - notes - notes - notes - notes - notes - notes - notes - notes - notes - notes - notes - notes - notes - notes - notes - notes - notes - notes -

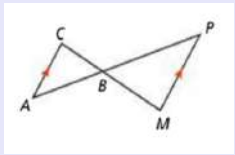
Angle-Angle Similarity AA~	If 2 angles of one triangle are congruent to 2 angles of another triangle, then the triangles are similar

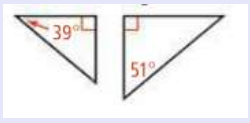




This theorem is based on the fact that the 3 angles of a triangle always add to 180°.

Ex: Given the diagram below, explain how the two triangles are similar by AA~.





Summary:

ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity ICA: In Class Activity

Processing AA~, SSS~, and SAS~ worksheet

To be taped on page 14

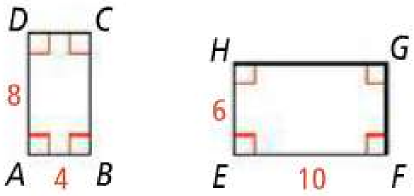
Closure

Right Side...

Write a summary that answers the essential question.

Left Side...

Are the two polygons shown below similar? If so, give the similarity ratio of the first polygon to the second. If not, explain.



EQ: SRT.3 How do I prove triangles similar using AA~?

Essential Question Essential Question Essential Question Essential Question Essential Question Essential Question Essential Question

Week 2, Lesson 4
1. Warm Up
2. Finish worksheet - Day 3
3. Bunny Dilations
4. Closure

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Proving Triangles are Similar

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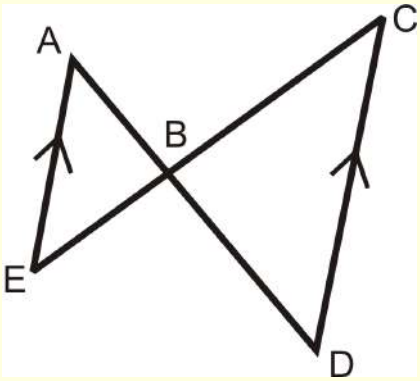
Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up Warm-up

Warm Up:

Given the diagram below, explain how the two triangles are similar by AA~.



Processing AA~, SSS~, and SAS~ worksheet

To be taped on page 14

Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure Closure

Right Side...

Write a summary that answers the essential question.

Left Side...

Writing The size of an oil spill on the open ocean is difficult to measure directly. Use the figure at the right to describe how you could find the length of the oil spill indirectly. What measurements and calculations would you use?