

Congruent Triangles Poster Activity

Groups Names _____

In this activity you will create triangles based on given conditions and display them on a poster. You will then compare the posters from the different groups and draw conclusions about which triangles are congruent, which triangles are not congruent and why.

Necessary Materials:

- poster board (white)
- construction paper (red, orange, yellow, green, blue, purple, and pink)
- scissors
- markers
- measuring tools

Your Job:

As a group, create and cut out triangles for each of the following conditions.

Display them on the poster.

Each triangle should be labeled with the number (1 – 7) **and the given measurements.**

1. Create as many triangles that you can that have sides of 11cm, 14cm, and 18cm. Make these out of red paper.
2. Create as many triangles that you can with angle measures of 30, 45, and 105 degrees. Make these out of orange paper.
3. Create as many triangles that you can that have sides of 14cm and 11cm with a 30 degree angle between the two sides. Make these out of yellow paper.
4. Create as many triangles that you can that have a side of 11cm. At one end is a 30 degree angle and at the other end is a 105 degree angle. Make these out of green paper.
5. Create as many triangles that you can that have angle measures of 45 and 105 degrees. Have the side opposite the 45° angle measure 14cm long. Make this with blue paper.
6. Create as many triangles that you can that have a side of 18cm and a side of 14cm. Have the angle opposite the 14cm side be a 30 degree angle. Make this out of purple paper.
7. Create as many triangles that you can that have a side of 18cm and a side of 14cm. Have the angle opposite the 18cm side be a 90 degree angle. Make this out of pink paper.

Grading Criteria

Grade 1: Group Grade

Everyone in the group will receive the same group grade. The maximum score is 12 points.

Accuracy of triangles

Yes, Mr. Germanis will be going through with protractors and rulers to make sure all measurements are accurate!

Requirements

Your triangles need to be numbered.

The measurements used to make the triangle should be clearly labeled.

Creativity of poster

This means the organization, neatness, and creativity of your poster. Be careful! This is a subjective assessment. You will be judged in comparison to the other posters created by your classmates.

Cooperation

This is the way your group cooperates together.

This will be based on observations made by your teacher while you work.

Are you helping each other?

Are you talking to each other?

Are you double-checking each other's measurements to make sure they are accurate?

Is everyone participating?

Are you working as a team where everyone knows what the other people in the group are doing?

Grade 2: Reflection Piece

Everyone will receive an individual grade.

The maximum score is 30 points.

Name _____

Reflection Piece.

Student Evaluation of Triangles

Walk around the room and examine each triangle on each poster.

Reminder of the conditions for each triangle:

1. Create a triangle that has sides of 11cm, 14cm, and 18cm.
Make this out of red paper.
2. Create a triangle with angle measures of 30, 45, and 105 degrees.
Make this out of orange paper.
3. Create a triangle that has sides of 14cm and 11cm with a 30 degree angle *between* the two sides. Make this out of yellow paper.
4. Create a triangle that has a side of 11cm. At one end is a 30 degree angle and at the other end is a 105 degree angle. Make this out of green paper.
5. Create a triangle that has angle measures of 45 and 105 degrees. Have the side *opposite* the 45° angle measure 14cm long. Make this with blue paper.
6. Create a triangle that has a side of 18cm and a side of 14cm. Have the angle *opposite* the 14cm side be a 30 degree angle. Make this out of purple paper.
7. Create a triangle that has a side of 18cm and a side of 14cm. Have the angle *opposite* the 18cm side be a 90 degree angle. Make this out of pink paper.

Right now concentrate on the following:

Which triangles seem to be **CONGRUENT** to the same colored triangles on all the posters?

Fill out the chart below to organize the information: (21 points)

Name for the given conditions	<i>SSS</i> Side-Side-Side	<i>ASA</i> Angle-Side-Angle	<i>AAA</i> Angle-Angle-Angle	<i>SAS</i> Side-Angle-Side	<i>AAS</i> Angle-Angle-Side	<i>SSA</i> <i>Side-Side-Angle</i>	<i>HL</i> Hypotenuse - Leg
Which number triangle is it?							
Color of the triangle created by this condition.							
Are all the triangles constructed this way congruent?							

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Are all the triangles constructed this way congruent?							

Name _____

Reflection Piece.

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Walk around the room and examine each triangle on each poster.

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Make this out of red paper.
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Your Reflections:

1. What does Congruent mean? (2 points)
2. List which are the RELIABLE CONDITIONS for creating Congruent Triangles. (5 points)
3. Which two conditions did **not** create Congruent Triangles? (2 points)