

Mathematics/ Matemáticas



Roanoke City
PUBLIC SCHOOLS

Teacher Contact
Information:
Información de
contacto del
profesor:

Family Learning
Resources:
Remote Learning Edition
Recursos de
Aprendizaje Familiar:
Edición de Aprendizaje
Remoto

Geometry/Geometría





Family Learning Resources: Remote Learning Edition

Winter 2026 - 5 Days of Resources

Content Areas Included

- English Language Arts
- Mathematics
- Science
- Social Studies

Objective

This document will provide families with remote learning resources in the four core content areas for the anticipated extended closure of schools due to inclement weather.

Recommendations for Usage

- These necessary materials focus on reinforcing previously learned concepts - no new materials are covered.
- Students should be able to complete with minimal adult assistance. However, discussing the purpose and understandings from resources can help establish a deeper connection to the materials.
- Students are encouraged to write down questions that they might have about the materials so that they may be discussed with teachers.
- In addition to the completion of these materials, RCPS recommends that students take time to read - either independently or with others.

Questions & Follow Up Notes

Please do not hesitate to reach out to your student's teachers with any questions. These resources are designed to support remote learning during school closures and help minimize disruptions to instruction. **Students should bring this booklet with them when they return to school.**



Recursos de Aprendizaje Familiar: Aprendizaje Remoto



Invierno 2026 – 5 días de recursos

Áreas de contenido

- Lenguaje (Inglés)
- Matemáticas
- Ciencias
- Estudios Sociales

Objetivo

Este documento ofrece a las familias recursos de aprendizaje remoto en las cuatro áreas académicas principales, pensados para apoyar la continuidad educativa durante cierres escolares prolongados debido a las inclemencias del tiempo.

Recomendaciones de Uso

- Estos materiales necesarios se centran en reforzar conceptos aprendidos previamente - no se cubre material nuevo.
- Los estudiantes deberían poder completar las actividades con una asistencia mínima de un adulto. Sin embargo, conversar sobre el propósito y los aprendizajes de los recursos puede ayudar a establecer una conexión más profunda con el material.
- Se anima a los estudiantes a escribir las preguntas que puedan tener sobre los materiales para que puedan ser comentadas con los maestros.
- Además de completar estos materiales, RCPS recomienda que los estudiantes dediquen tiempo a la lectura, ya sea de manera independiente o con otras personas.

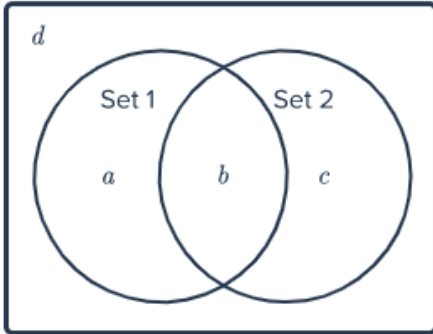
Preguntas y notas de seguimiento

Por favor, no dude en comunicarse con los maestros de su estudiante si tiene alguna pregunta. Estos recursos están diseñados para apoyar el aprendizaje remoto durante los cierres escolares y ayudar a minimizar las interrupciones en la instrucción. **Los estudiantes deben traer este folleto cuando regresen a la escuela.**



G.RLT.1cd Venn Diagrams

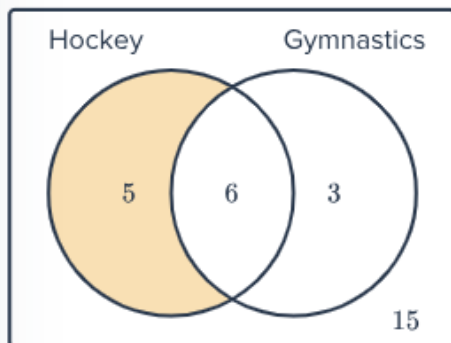
Venn diagrams can be used to visually represent relationships between sets. Recall that a Venn diagram has four regions or subsets. These include:



- a : The elements that belong only to the first set and not to the second set
- b : The elements that belong to both sets
- c : The elements that belong only to the second set and not to the first set
- d : The elements that are included in the universal set but do not belong to either subset

Directions: For each of the definitions below, shade the Venn diagram to represent the set described.

<p>The universal set, U, is the set from which all elements in a problem can be found. Every element in the Venn diagram belongs to the universal set.</p>	
<p>The negation of set A, denoted $\sim A$ or "not A" is the set of all elements of the universal set which are <i>not</i> elements of A. This is sometimes called the complement.</p>	
<p>The intersection of two sets A and B, denoted $A \cap B$, is the set of all elements which belong to both A and B. This is sometimes called the conjunction.</p>	
<p>The union of two sets A and B, denoted $A \cup B$, is the set of all elements that belong to either A or B. This is sometimes called the disjunction.</p>	

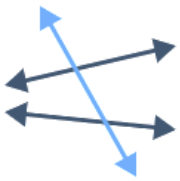
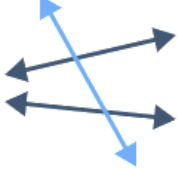
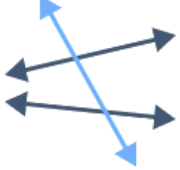
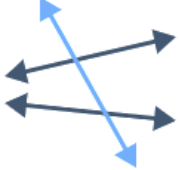
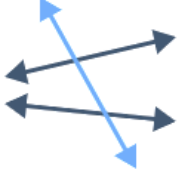


Directions: For the Venn diagram representing students who play Hockey (H) and students who do gymnastics (G), identify the number of students in the following sets.

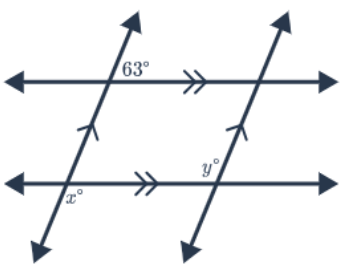
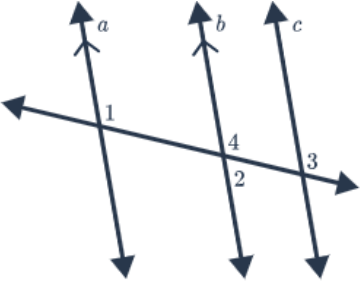
- $H \cap G$
- $H \cup G$
- $H \cap \sim G$
- $\sim(H \cup G)$

G.RLT.2 Parallel Lines

Directions: For the definitions of the different angles formed when a transversal cuts through a pair of lines, draw one pair of the angles described. There may be other pairs of angles that also work; just pick one pair. Use the definitions and descriptions to help you answer the two problems at the bottom of the page.

<p>Corresponding Angles: Angles that are in the same position on two lines in relation to a transversal.</p> <p>If two lines are parallel, these angles are equal. If these angles are equal, then the lines are parallel.</p>	
<p>Same-side (consecutive) interior angles: Angles that are on the interior of two lines on the same side of the transversal.</p> <p>If two lines are parallel, these angles are supplementary (add to 180°). If these angles are supplementary, then the lines are parallel.</p>	
<p>Same-side (consecutive) exterior angles: Angles that are on the exterior of two lines on the same side of the transversal.</p> <p>If two lines are parallel, these angles are supplementary (add to 180°). If these angles are supplementary, then the lines are parallel.</p>	
<p>Alternate interior angles: Angles that are on the interior of two lines on different lines and opposite sides of the transversal.</p> <p>If two lines are parallel, these angles are equal. If these angles are equal, then the lines are parallel.</p>	
<p>Alternate exterior angles: Angles that are on the exterior of two lines on different lines and opposite sides of the transversal.</p> <p>If two lines are parallel, these angles are equal. If these angles are equal, then the lines are parallel.</p>	

Directions: Complete the following two problems.

<p>The figure shows two intersecting pairs of parallel lines.</p>  <p>a) Find the value of x and explain your answer.</p> <p>b) Find the value of y and explain your answer.</p>	<p>Determine if the information given is enough to justify the conclusion. Justify your answer.</p> <p>Given: $a \parallel b$ and $\angle 1 \cong \angle 3$</p> <p>Conclusion: $\angle 2$ and $\angle 3$ are supplementary.</p> 
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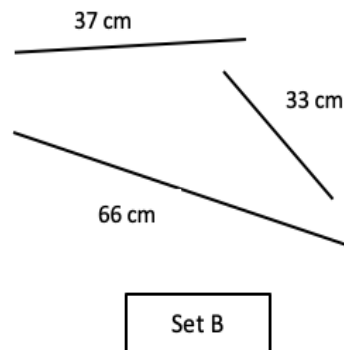
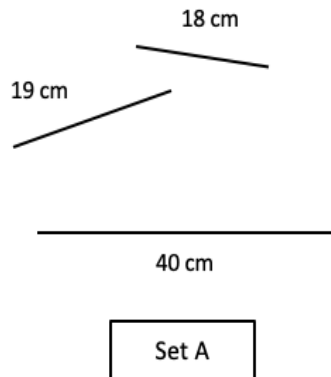
G.TR.1 Triangle Inequality

The **Triangle Inequality Theorem** states that the sum of the lengths of any two sides of a triangle is greater than the length of the third side.

A **valid triangle** is a set of three sides whose lengths satisfy the triangle inequality theorem.

Directions: Answer the following questions.

- Ms. Jones asked her students to determine which of the following sets of segments could form the three sides of a triangle.



Jessica states the sum of the lengths of the two shorter sides of Set A is less than the length of the longest side. Therefore, the line segments in Set A would form the sides of a triangle.

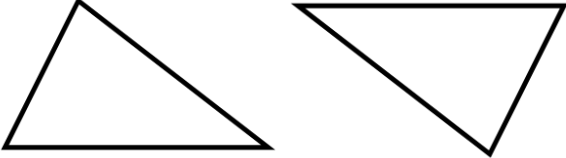
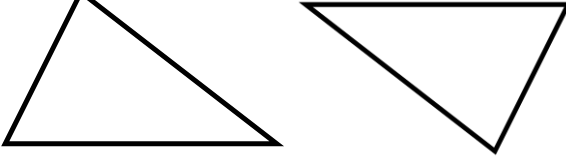
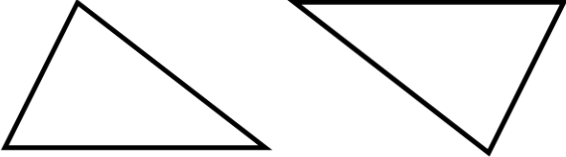
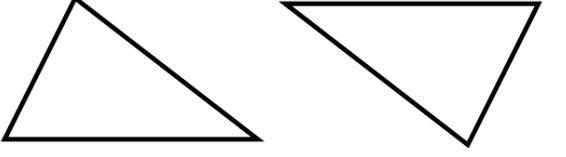
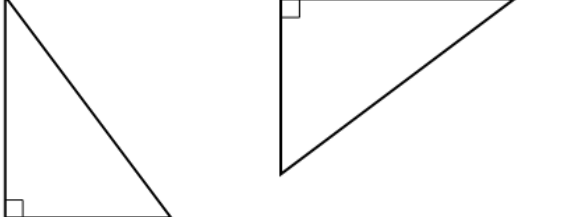
Ashley states the sum of the lengths of the two shorter sides of Set B is greater than the length of the longest side. Therefore, the line segments in Set B would form the sides of a triangle.

Who is correct, Jessica or Ashley? Explain your thinking.

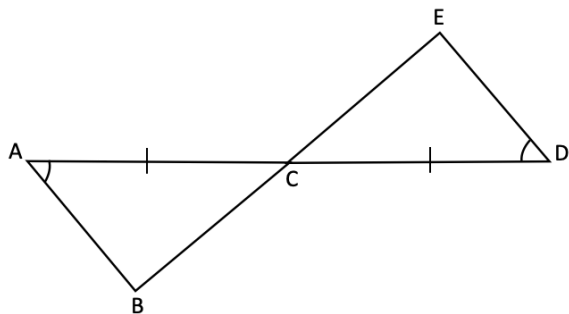
- Could a triangle have side lengths of 16 ft, 44 ft, and 28 ft? Explain your thinking.
- A triangle has side lengths of 2 units and 8 units. Identify all possible integral lengths of the third side. Explain your thinking.
- Anthony stated that a triangle with side lengths of 3 cm and 4 cm could have a third side with a side length of 7 cm. Is Anthony correct? Explain. Create a statement about the length of the third side.

G.TR.2 Congruent Triangles

Directions: For each of the congruency theorems stated below, draw in appropriate congruency marks (tick marks or angle lines) that would satisfy the theorem for the pair of triangles given. (There may be more than one correct way to mark the triangles.) Then, use these theorems to answer the questions below.

<p>Side-Side-Side (SSS): If the three sides of one triangle are congruent to the three sides of another triangle, then the triangles are congruent.</p>	
<p>Side-Angle-Side (SAS): If two sides of one triangle are congruent to two sides of another triangle, and the included angles are also congruent, then the triangles are congruent. (The included angle is the angle between two sides of a polygon.)</p>	
<p>Angle-Side-Angle (ASA): If two angles and the included side of one triangle are congruent to two angles and the included side of another triangle, then the two triangles are congruent.</p>	
<p>Angle-Angle-Side (AAS): If two angles and the non-included side of one triangle are congruent to the corresponding parts of another triangle, the triangles are congruent.</p>	
<p>Hypotenuse Leg (HL): If the hypotenuse and leg of one right triangle are congruent to the hypotenuse and leg of another right triangle, then the two triangles are congruent.</p>	

Two triangles are given.



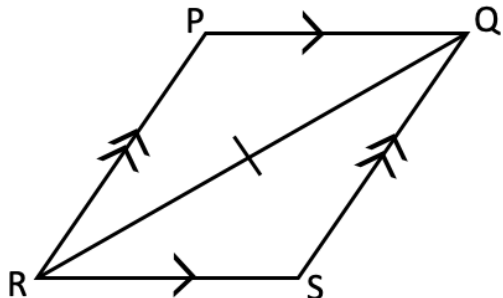
a) Is there sufficient information to prove these two triangles congruent? Explain.

b) If possible, create a congruency statement to indicate the two triangles are congruent.

G.TR.2 Congruent Triangles (Part 2)

Directions: Answer the following questions.

1. 1) Quadrilateral $PQSR$ is given. $\overline{PQ} \parallel \overline{RS}$ and $\overline{PR} \parallel \overline{QS}$. Determine which two triangles are congruent. Write a congruency statement. Provide your reasoning.



2. $\triangle TRP \cong \triangle QSP$. If $m\angle T = 41^\circ$, $m\angle R = 33^\circ$, and $m\angle P = 10x + 6^\circ$, find $m\angle S$.



3. Two triangles are shown on the coordinate grid. All vertices have coordinates that are integers. Determine if the triangles are congruent. Explain how you came to your conclusion. If the triangles are congruent, write a congruency statement.

