Geometry Study Guide

A polygon is a closed plane figure made up of line segments. Each line segment is a side. The point where the sides meet is the vertex (vertices).

Triangle - 3 sided polygon
Quadrilateral - 4 sided polygon
Pentagon - 5 sided polygon
Hexagon - 6 sided polygon

Heptagon - 7 sided polygon
Octagon - 8 sided polygon
Nonagon - 9 sided polygon
Decagon - 10 sided polygon

A point is an exact location in space. The point below is named Point A.

A line is a straight path of points that goes on and on in two directions. The line below is named Line DE.

A line segment is part of a line. It has two endpoints. The line segment below is named Line Segment BC.

A ray is part of a line. It has one endpoint and continues on and on in only one direction. The ray below is named Ray FG. Remember rays are named from the endpoint first.

An angle is formed by two rays that have the same endpoint. The common endpoint is called the vertex.

A right angle is a square corner. The right angle below is named right angle FED.

An acute angle is less than a right angle. The acute angle below is named acute angle MNO.
An obtuse angle is greater than a right angle. The obtuse angle below is named obtuse angle STU.

Congruent figures are the same size and shape. Congruent figures remain the congruent through translations, reflections, and rotations.

A slide, or translation, moves a figure in a straight direction. A flip, or reflection, of a figure gives its mirror image. A turn, or rotation, moves a figure about a point.

You will need to be able to provide a real life example of a translation, rotation, and reflection.

A line of symmetry divides a figure into two equal parts.
Geometry Review

Write if each is a point, line segment, line, or ray and its name.

Example:

1. line \( AB \) or \( \overline{AB} \)
2. line \( BA \)
3.
4.
5.
6.
7.
8.
Write acute, right, or obtuse angle and its name.

9. [Diagram of an angle]
10. [Diagram of an angle]
11. [Diagram of an angle]
12. [Diagram of an angle]

Tell whether the dotted line on each shape is a line of symmetry. Write yes or no.

i. [Diagram of a parallelogram with a dotted line]
j. [Diagram of an octagon with a dotted line]
k. [Diagram of a trapezoid with a dotted line]
d. [Diagram of a trapezoid with a dotted line]

Write the name of each shape.

[Diagram of a hexagon]
[Diagram of a pentagon]
[Diagram of a triangle]
[Diagram of a trapezoid]
[Diagram of an octagon]
Example

1. Draw the reflection of the shape.

2. Draw the translation of the shape.

3. Draw the rotation of the shape.