

Module 1, Topic A, Vocabulary

Basic rigid motion: Any transformation (such as a flip or a turn) in which the distance between any two points is kept the same. There are three basic types of rigid motions: translations (slides), reflections (flips), and rotations (turns).

Coincide: If you translate line L along a vector \overrightarrow{AB} , the new part of the line, in red, just extends the original line. We say line L and its image coincide.



Collinear: Points that are on the same line.

Image: An object that has been turned, flipped, or slid to a new location. This image should have a label with a prime (see below) to distinguish it from the original object.

Length notation: As a shortcut to writing, “The length of the segment AB is,” students use the notation $|AB|$.

Map: When an object maps onto another object, that means they’re congruent, or exactly the same. We say that Object 1 maps to, or maps onto, Object 2.

Preserving: Maintaining the original measure. For example, an angle preserves its measure when rotated, so a 45° angle will still be 45° after it has been rotated.

Prime notation: Original objects, shapes, or points are labeled with capital letters. When a point, shape, or object, P , is transformed, a prime is added to its label, P' . If that image is then transformed again, it will be labeled with two primes, P'' . This continues for each new transformation.

Reflect/Reflection: A type of transformation that moves every point in the original object across a line of reflection (a line directly in the middle between the original and the new image). This is often referred to as a flip over a line. When describing a reflection, a student should write, “The original object was reflected over (or across) \overline{AB} .” In the first sample problem, the line of reflection is ℓ .

Rotate/Rotation: A type of transformation that turns an object around a point. When describing a rotation, a student should write, “The original object was rotated around point P by 45° .” Rotations going in a clockwise direction have negative degree measures, while rotations in a counterclockwise direction have positive degree measures.

Transformation: The movement of a point, segment, line, or object. There are four transformations in Grade 8: translation (slide), rotation (turn), reflection (flip), and dilation (stretch or shrink).

Translate/Translation: A type of transformation that moves every point in the original object along a vector to a new location. This is often referred to as a slide along a vector. When describing a translation, a student should write, “The original object was translated along vector \overrightarrow{AB} .”

Vector: A line segment that has a direction; it is represented by a symbol on which one end is a point and the other end is an arrow. Its notation is \overrightarrow{AB} which means that when you translate a shape, you will start at point A and move the shape along the vector, stopping at point B .

Module 1, Topic B, Vocabulary

Sequence of transformations: A set of transformations performed in a particular order (e.g., a translation followed by a rotation).

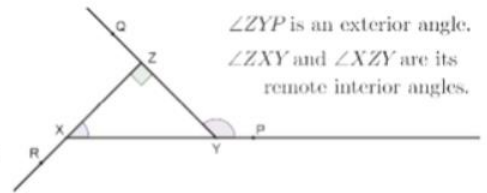
Module 1, Topic C, Vocabulary

Congruent/Congruence: Objects are congruent if one object can be mapped onto (fit exactly on top of) the other after a sequence of transformations has been performed. $\triangle ABC \cong \triangle A'B'C'$ is read as, “Triangle ABC is congruent to Triangle A prime B prime C prime.”

Exterior angle: An angle formed when one side of a triangle is extended.

Remote interior angles: The two angles inside the triangle that do not touch the exterior angle.

Triangle angle sum: The measures of three angles of any triangle add up to 180 degrees.



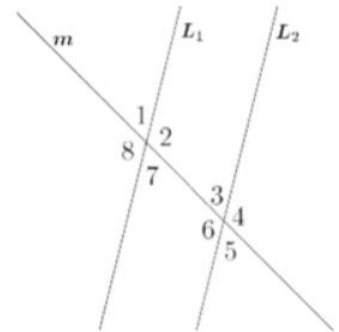
Parallel lines: Two lines that will never touch. If line W is parallel to line Y , we can write $W \parallel Y$.

Corresponding angles: Two angles that are on the same side of the transversal in corresponding positions (e.g., angles 2 and 4 in the picture).

Alternate interior angles: Two angles on different sides of the transversal and between the parallel lines (e.g., angles 2 and 6 in the picture).

Alternate exterior angles: Two angles on different sides of the transversal and outside the parallel lines (e.g., angles 4 and 8 in the picture).

Supplementary angles: Two angles whose measures add up to 180 degrees (e.g., angles 1 and 8 in the picture).



Transversal: Any line that intersects two or more (usually parallel) lines. In the picture, line m is the transversal.

Module 1, Topic D, Vocabulary

Hypotenuse of a right triangle: The longest side of the right triangle; it is opposite the right angle.

Leg of a right triangle: One of the two shorter sides of the right triangle. Together, the legs form the right angle.

Pythagorean theorem: If the triangle is a right triangle, then $leg_1^2 + leg_2^2 = hypotenuse^2$, or $a^2 + b^2 = c^2$.