Unit 7 - Geometric Relations: Definitions / Terminology

Classify triangles using side lengths – ______________, ______________, ______________
Classify triangles using angle measures – ______________, ______________, ______________

Ray: ————
Line: ————

Line Segment: ————

Polygon: A closed figure made up of line segments.

Regular Polygon: A polygon where all the sides and angles are ______________.

Similar: Same shape but not necessarily the same size

Congruent: Exactly the same in all respects – same ______________, same ______________

Concave Polygon: A polygon with at least one angle ______________ than 180°

Convex Polygon: A polygon with all angles less than ______________

Kite: Quadrilateral with two pairs of adjacent sides equal

Rhombus: A parallelogram with all sides ______________ ______________.

Vertex: The __________ where two or more sides meet.

Adjacent: Adjoining or next to

Obtuse Angle: An angle between _______° and _______°

Acute Angle: An angle less than _______°

Supplementary: Two angles adding to _______° -- forming a Straight Line or Straight Angle (S.A.)

Complementary: Two angles adding to _______°

Opposite Angle Theorem (OAT): If two lines intersect, the angles opposite each other are _______.

Isosceles Triangle Theorem (ITT): If two sides of a triangle are congruent, then the angles opposite those sides are ______________.

Interior Angle: Angle formed on the ______________ of a polygon by two sides meeting at a vertex.

Exterior Angle: Angle formed on the outside of a geometric shape by extending one of the sides past a vertex (the interior angle and exterior angle at any vertex are ______________)

Exterior Angle Theorem: The ______________ angle at each vertex of a triangle is ______________ to the sum of the interior angles at the other two vertices. (EAT)

Polygon Exterior Angle Theorem (PEAST): Exterior angles of any polygon add to _______°.

Angle Sum Triangle Theorem (ASTT): Sum of Interior angles of a triangle add to _______°.

Angle Sum Quadrilateral Theorem (ASQT): Sum of interior angles of a quadrilateral add to _______°.

Angle Sum Polygon Theorem (ASPT): Sum of ______________ angles of a polygon add to 180(n - 2) degrees.
Transversal: A line intersecting or crossing two ____________ lines.

Transversal Parallel Line Theorem (TPT)

- Alternate angles are ____________ (Z pattern) (AA)
- Corresponding angles are ____________ (F pattern) (CA)
- Co-interior angles add to ________° (C Pattern) (CIA)

Midpoint: A point that divides a line segment into two ____________ parts

Right Bisector: A line ______________________ to a line segment passing through its ____________.

Median: The line segment joining the vertex of a triangle to the ____________ of the opposite side.

- A median of a triangle bisects its ____________.
- A line segment joining the midpoints of two sides of a triangle is called a ______-______________.
- A mid-segment of a triangle is ____________ to the third side and ______ as long.
- The height of a triangle with a mid-segment as its base is ________ the height of the original triangle.
- Joining the midpoints of the sides of any quadrilateral produces a ________________.
- The diagonals of a parallelogram ____________ each other.
- The diagonals of a square are equal length and they ________ each other at ________ angles.
- The diagonals of a rectangle ____________ each other.
- The diagonals of a kite meet at ________ angles.
- The diagonals of a rhombus ____________ each other at ________ angles.

Definitions not on test:

A centroid of a triangle is the point where the three medians of the triangle meet. The centroid is also called the center of gravity of the triangle.

The circumcenter is the center of a triangle’s circumcircle. It can be found as the intersection of the perpendicular bisectors.

The incenter of a triangle is the point where all three angle bisectors always intersect.

The orthocenter is the point where all three altitudes of the triangle intersect. An altitude is a line which passes through a vertex of the triangle and is perpendicular to the opposite side. There are therefore three altitudes in a triangle.