

Geometry Study Guide Chapter 6 Polygons & Quadrilaterals

6-1 Polygon Angle-Sum Theorems

1. What is a polygon? What is a regular polygon?
2. What is equilateral? Equiangular?
3. What is an interior angle? Exterior Angle?
4. What is the formula for the “sum of the measures of the interior angles of an n -gon?”
5. What is the “sum of the measures of the interior angles” of a triangle; rectangle; pentagon; 20-gon?
6. What is the formula for the “measure of each interior angle of a regular n -gon?”
7. What is the measure of “each interior angle” of a regular triangle; rectangle; pentagon; 20-gon?
8. What is the “sum of the measures of the exterior angles of a polygon?”
9. How do you calculate the measure of one individual exterior angle of a polygon?
10. Are all quadrilaterals polygons? Are all polygons quadrilaterals? Draw a Venn diagram showing this relationship.
11. Do you understand Problem 1, Problem 2, Problem 3, Problem 4?
12. Do you understand how to do these problems? p. 356; #9, 13, 17, 19, 23

6-2 Properties of Parallelograms

1. What are opposite sides? Consecutive sides? Opposite angles? Consecutive angles?
2. Define a parallelogram. Are all parallelograms polygons? Are they all quadrilaterals? Draw a Venn diagram relating polygons, quadrilaterals, and parallelograms.
3. What 2 properties are true about both sets of opposite sides?
4. What property is true about both sets of opposite angles?
5. What property is true about both sets of consecutive angles?
6. What property is true about both diagonals?
7. What 2 characteristics are true about one set of opposite sides?
8. Do you understand Problem 1, Problem 3?
9. Do you understand how to do these problems? p. 364; #11, 15, 25, 27, 38, 40

6-3 Proving that a Quadrilateral is a Parallelogram

1. Do you understand Problem 1, Problem 2?
2. Do you understand how to do these problems? p. 372; #7, 9, 11-15, 32, 34

6-4 Properties of Rhombuses, Rectangles, and Squares

1. What is a rhombus? What is a rectangle? What is a square?
2. What 2 properties are true about the diagonals of a rhombus?
3. What property is true about the diagonals of a rectangle?
4. How do the previous 2 questions combine to describe the properties of diagonals of squares?
5. Is a rhombus a square? Is a square a rhombus? Draw a Venn diagram showing this relationship.
6. Is a rectangle a square? Is a square a rectangle? Draw a Venn diagram showing this relationship.
7. Does a rhombus have any axes of symmetry? A rectangle? A square?
8. Do you understand Problem 1, Problem 2, Problem 3?
9. Do you understand how to do these problems? p. 379; #11, 13, 19, 24-37, 39, 43

6-5 Conditions for Rhombuses, Rectangles, and Squares

1. Do you understand Problem 1, Problem 2?
2. Do you understand how to do these problems? p. 386; #8-12, 14, 16-18

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6-6 Trapezoids and Kites

1. What is a trapezoid? What is an isosceles trapezoid? What are base angles? What is a kite?
2. What is true about the base angles of an isosceles trapezoid?
3. Which angles are supplementary in a trapezoid?
4. Which angles are congruent in an isosceles trapezoid?
5. What property is true about diagonals of an isosceles trapezoid?
6. How can you use the mean of the bases to find the length of the midsegment of a trapezoid?
7. What property is true about diagonals of a kite?
8. Which angles are congruent in a kite? Which are not?
9. Is a trapezoid a parallelogram? Is a kite a parallelogram?
10. Draw a Venn diagram relating polygons, quadrilaterals, parallelograms, rhombuses, rectangles, squares, trapezoids, and kites.
11. Does a trapezoid have any axes of symmetry? Isosceles trapezoid? Kite?
12. Do you understand Problem 1, Problem 3, Problem 4
13. Do you understand how to do these problems? p. 394; #7, 13, 17, 18, 35, 57-62

6-7 Polygons in the Coordinate Plane

1. Do you know how to find slope? Midpoint? Distance?
2. What is true about the slopes of parallel lines? Perpendicular lines?
3. Do you understand Problem 1, Problem 2, Problem 3?

6-8 Applying Coordinate Geometry

1. Do you understand Problem 1, Problem 2?

Algebra Review -- Systems of Linear Equations

Do you understand how to solve systems of linear equations?

Examples:

$$x = y + 2 \text{ and } 2x - 8 = y + 10$$

$$y = 3x \text{ and } 4x = y + 1$$

$$x = 4y + 3 \text{ and } 3y = x - 6$$

$$2a = 3b + 2 \text{ and } 2a + 3 = 6b - 1$$

$$n = 3m \text{ and } n + 6 = 7m - 14$$

$$4x = 3y + 19 \text{ and } 6y = 2x + 4$$

End-of-Chapter Review

Do you understand how to do these problems? p. 421; # 5, 6, 10, 11, 15, 18, 20, 21, 23-28, 30, 31, 34, 35, 39

REVIEW: Chapter Review p. 420-424; Vocabulary; Notes; Homework; Classwork; Quizzes