Chapter 6 Review sheet Please draw a diagram for each item where possible. Name_____ per___

DIFFERENT TYPES OF QUADRILATERALS:

1. Quadrilateral: A four sided polygon.
2. Parallelogram: A quadrilateral with both pairs of opposite sides parallel.
3. Rhombus: A quadrilateral with all 4 sides congruent.
4. Rectangle: A quadrilateral with all four right angles.
5. Trapezoid: A quadrilateral with exactly one pair of parallel lines.
6. Isosceles trapezoid: a trapezoid with congruent nonparallel opposite sides (legs).
7. Kite: A quadrilateral with two pairs of adjacent sides congruent and no opposite sides congruent.
8. Square: A parallelogram with four congruent sides and four right angles. In other words, a square is both a rhombus and a rectangle.

2. PROPERTIES OF PARALLELOGRAMS: (Plus Theo. 6.4 on page 315 from textbook)

9. Opposite sides of a parallelogram are congruent.
10. Opposite angles of a parallelogram are congruent.
11A. The diagonals of a parallelogram bisect each other.
11B. Consecutive angles in a parallelogram are supplementary. (180°)

WAYS TO PROVE THAT A QUADRILATERAL IS A PARALLELOGRAM:

12. If both pairs of opposite sides are congruent then the quadrilateral is a parallelogram.
13. If both pairs of opposite angles are congruent then the quadrilateral is a parallelogram.
14. If the diagonals bisect each other then the quadrilateral is a parallelogram.
15. If one pair of opposite sides is both congruent and parallel then the quadrilateral is a parallelogram.

PROPERTIES OF RHOMBUSES and RECTANGLES (Also includes #2, 9-11B from above)

16. Each diagonal of a rhombus bisects two angles of the rhombus.
17. The diagonals of a rhombus are perpendicular.
18. The diagonals of a rectangle are congruent.

16B-18B (The converses of items 16-18 is also true.) For example: (Conv. of #16) If each diagonal of a □ bisects the ∠s of □ then the □ is a rhombus.

PROPERTIES OF TRAPEZOIDS, AND KITES

19. Two parallel sides of a trapezoid are its bases. Nonparallel sides are the legs.
20. Base angles of a trapezoid: are two angles that share a base of a trapezoid.
21. The base angles of an isosceles trapezoid are congruent.
22. The diagonals of an isosceles trapezoid are congruent.
23. The diagonals of a kite are perpendicular.
24. Midsegment of a trapezoid is the segment that joins the midpoints of the nonparallel opposite sides (legs).
25. The midsegment of a trapezoid is parallel to the bases.
26. The length of the midsegment of a trapezoid is half the sum of the length of the bases.

LOOKING AHEAD:

27. Two similar figures have the same shape but not necessarily the same size. Similar polygons have congruent corresponding angles and the ratio of their corresponding sides are equal (they form a proportion).
28. Scale factor (Similarity ratio): is the ratio of a pair of corresponding sides in similar polygons.
29. Area of a triangle = 1/2 x base x height
30. Area of a Parallelogram = base x height