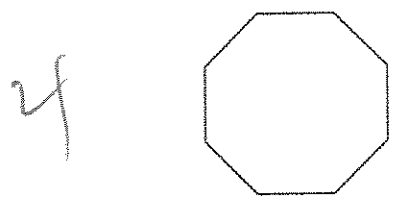


MATH 106 - QUIZ 1
Spring 2009

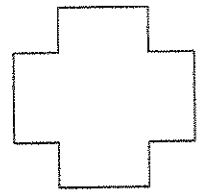
Name Key

Answer all questions with the best possible answer. Point values are indicated.

1. Give the best name for each of the following polygons: (2 points each)



a. regular octagon



b. concave dodecagon

2. For each of the following, sketch an example if it is possible. If an example is impossible, say so. (1 point each)

a. A scalene triangle which is not an acute triangle.



b. A kite with exactly one 90 degree angles that is not a rectangle. Be sure to mark the 90 degree angle.



c. A kite which is also a rectangle.



d. A parallelogram which is an isosceles trapezoid.



e. A rhombus that is not a kite.

not possible - all rhombi have congruent adjacent sides

3. Give the **best names** for the following shapes. (1 point each)

a. An isosceles trapezoid with at least one right angle: rectangle

b. An equilateral (but not regular) parallelogram: rhombus

2

4. Tell whether each statement is always true, sometimes true, or never true. Support your decisions. (1 point each)

- a. The diagonals of a parallelogram bisect each other. always
- b. The diagonals of a kite bisect each other. sometimes

5. (1 point) The sizes of three interior angles of a quadrilateral are 65° , 35° , and 60° . What is the size of the fourth angle of the quadrilateral?

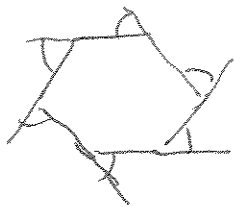
- a) 20° b) 100° c) 160° d) 200°

6. (1 point) If a polygon is equiangular, then it must be :
a) equilateral b) regular c) a triangle d) both a and b e) none of a-d

7. Answer the following True/False questions. 1 point each

- T F Every square is a special quadrilateral.
- T F Every square is a quadrilateral.
- T F Every square is a rectangle.
- T F Every rectangle is a parallelogram.
- T F Every rhombus is a parallelogram.
- T F Every rectangle is a special square.
- T F Every trapezoid is a special parallelogram.
- T F Any fact that is true for every parallelogram is also true for every square.
- T F Any fact that is true for every rectangle is also true for every quadrilateral.

8. What is the sum of the measures of the exterior angles of any convex polygon? Explain your reasoning for credit. (2 points)



As you walk around the exterior of the shape, you will turn the amount of the exterior angles, ending up in the same direction and orientation as your starting position thus turning a full 360° .