Introduction to Area and Perimeter

Name: _____

Date: _____

Example 1. Define the following terms and draw a picture of each one.

• Unit Square

• Area

• Perimeter

• Radius

• Diameter

• Circumference

• π

Example 2. Suppose you know the side lengths of a rectangle.

• How can you find its perimeter?

• How can you find its area?

Example 3. A rectangle has an area of 36 square meters and one of its sides is eight meters long. What is the rectangle's perimeter, in meters?

Example 4. Suppose you know the radius of a circle.

• How can you find its circumference?

• How can you find its area?

Example 5. A circle has a diameter of 28 inches. What is its area? Round your answer to the nearest square inch.

Example 6. A circle has a circumference of 16π feet. What is its area, in square feet? Express your answer in terms of π .

Example 7. Why is the area of a triangle half of the area of the rectangle that surrounds it?



Example 8. Find the area of the following right isosceles triangle.



Example 9. Find the perimeter and the area of the following octagon, whose angles are all right:



Example 10. Find the perimeter and the area of the following figure, which is composed of a semicircle stacked on top of a square with side length 6. Round your answers to the nearest whole number.







Example 12. A circular pizza fits snugly in a square-shaped pizza box. What percentage of the box is occupied by the pizza? Round your answer to the nearest whole number.

Problem 1. The area of a square is equal to its perimeter. What is its side length?

Problem 2. The Earth's equator is approximately 40,075 km long. What is the area of the circle formed by Earth's equator, to the nearest million square kilometers?

Problem 3. A hexagon with all right angles, depicted below, and its area is 39. Its two smallest sides have the same length. What is this length?



Problem 4. Oliver and Tennyson are both eating circular pizzas. Oliver's pizza has a diameter of 10 inches, and Tennyson eats 44 percent more pizza than Oliver. What is the diameter of Tennyson's pizza, in inches?

Problem 5. A dog is attached to the outside corner of a closed rectangular shed measuring 8 meters by 16 meters, and its leash is 12 meters long. What is the area of the region the dog can roam in? Leave π in your answer.



Problem 6. A non-square rectangle has whole number dimensions. Its area is the same as its perimeter. What are the dimensions of the rectangle?

Problem 7. A right triangle has sides measuring 15 feet, 20 feet, and 25 feet. Find the distance from the right angle to the longest side, in feet.

