

## Related Geometric Figures

*Prepared by Alex Katsenelenbogen*

1. A rectangle with a length of 25 *in* has the same area as a square. If the square's area is 200 *in*<sup>2</sup>, then what is the perimeter of the rectangle?
2. A circle with a radius of 12 inches has a circumference equal to the perimeter of a right isosceles triangle. What is the area of the triangle?
3. A right isosceles triangle has an area of 30 *cm*<sup>2</sup>. If a square has a side length equal to the hypotenuse's length, what is the area of the square?
4. A rectangle with length 20 *cm* and width 30 *cm* has a perimeter that is numerically equal to the area of a certain square (measured in *cm*<sup>2</sup>). What is the perimeter of the square?
5. One circle has a diameter that is twice that of a different circle. What is the ratio of the larger circle's area to the smaller circle's area?