**Four circles and a square (Solution)**

As we look at this picture we can see we have a shaded area that is surrounded by a square and four circles. Since we need to find the area of the shaded center and it is an odd shape, we should consider using common area formulas for the other shapes given.

Let’s start with the circles. To find the area of one circle we use the formula:

Area of Circle = πr ^2

The only parts of the circles we want to consider in our area are the parts inside the square. There are four quarter circles located inside the square. Four quarters make up one whole (4/4). This lets us know that we only need to count the area of one full circle when figuring out our area.

Next, let’s consider the area of the square. To find the area of a square we use the formula:

Area of a Square: (2r) (2r)

To find the area of our shaded center we will need to combine the two formulas. First we need to start with the area of our square and then subtract out the area of the four quarter circles. (We can do this by subtracting out one full circle.)

Area of shaded center: (2r) (2r)- πr ^2

We can simpllify the new equation and end up with a final result for the shaded center.

Area of shaded area = (4-π) r^2