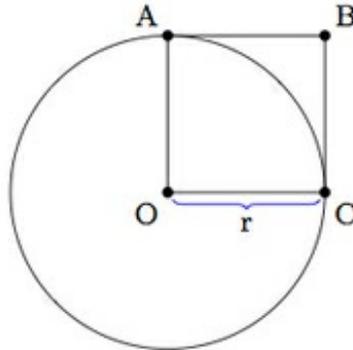


## 7.G Approximating the area of a circle

### Task

Below is a picture of a circle of radius  $r$  and a square of side length  $r$ :



a. Show that

$$2 \leq \frac{\text{Area}(\text{Circle})}{\text{Area}(\text{Square})} \leq 4.$$

b. How can we find a more accurate estimate of  $\frac{\text{Area}(\text{Circle})}{\text{Area}(\text{Square})}$  than the one in part (a)?

c. Explain why the quotient  $\frac{\text{Area}(\text{Circle})}{\text{Area}(\text{Square})}$  does not depend on the radius  $r$ .



7.G Approximating the area of a circle  
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