

Early Computations of π

Name _____

Date _____

1. In the period between 500 to 1000 A.D., Aryabhata was one of the five mathematicians of prominence in India. His method for determining pi was this:

"Add 4 to 100, multiply by 8, and add again 62,000. The result is approximate value of the circumference when the diameter is twenty thousand."

Do these calculations. What value of pi does this determination yield?



$\pi =$ _____

2. Aryabhata had the following procedure for finding the area of a circle:

*"Half the circumference multiplied by half the diameter is the area of a circle."
($A = \frac{1}{2} C \cdot \frac{1}{2} d$)*

Do the calculations for circles with the following dimensions. Use $\pi = 3.1416$.

C	$\frac{1}{2}C$	d	$\frac{1}{2}d$	$A = \frac{1}{2}C \cdot \frac{1}{2}d$	$A = \pi r^2$
31.416		10			
12.56		4			
75.3984		24			

How accurate is Aryabhata's rule? _____
