





# ROUND #3

*Gainesville State College  
Mathematics Tournament  
April 10, 2010*

A giraffe is in a fenced corral in the shape of a right triangle. One leg of the triangle is 10 *meters*, and the hypotenuse is 20 *meters*. Thanks to its long neck, the giraffe can eat greens not only inside of the corral, but also outside, up to 3 *meters* from the fence. What is the total area of feeding available for the giraffe?  
Give the approximation to three decimal places.



# ROUND #4

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An *arithmetic sequence* is a sequence of numbers (called *terms*) such that the difference between any two consecutive terms is a constant.

How many *terms* are there in the following arithmetic sequence?

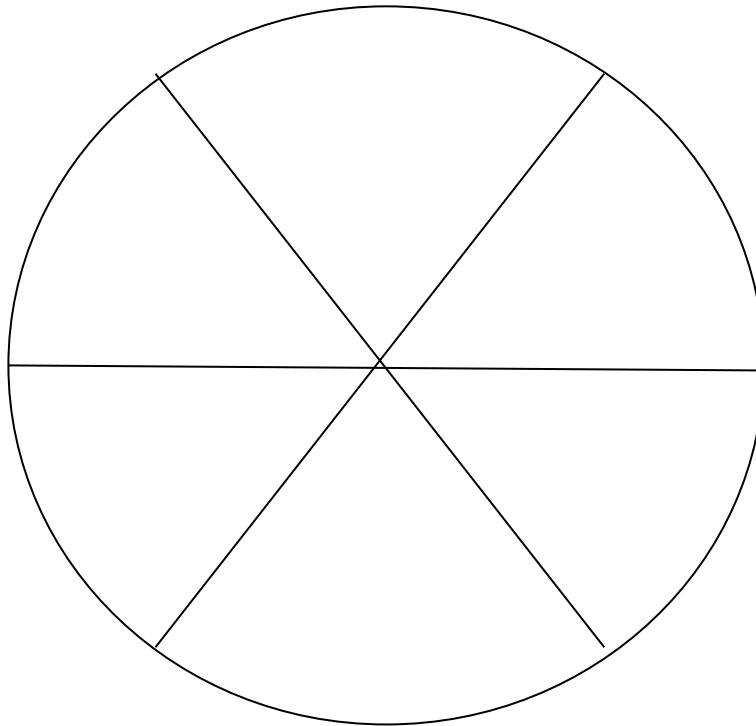
3, 5.7, 8.4, 11.1, ..., 858.9, 861.6, 864.3, 867



# OR UNL #6

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If a wheel revolves  $1\frac{5}{6}$  revolutions per minute, how many degrees does it revolve in one second?





# O — R UND #8

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Three circular arcs of radius 5 *units* bound the plane region shown. Arcs AB and AD are quarter-circles, and arc BCD is a semicircle. What is the area, in *square units*, of





# ROUND #10

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Today, I am twice as old as you were when I was as old as you are today.

Today, our ages added together make 63.

How old is each of us?

