Class Activity 2 20120910
Goal: Calculate Solar Radiation in each of four zones, A, B, C, and D (W/m^2).
1 degree = 60 NM
1 NM = 1.852 km
assume unit width = 1km

I. Calculate Radius of Earth	
Circumference = Diameter X Pi	Circumference (km)=
Radius = 1/2 X Diameter	Diameter (km) =
Convert to KM	Radius (km)=

II. Calculate Area in each zone				
			distance deg X NM/deg X km/NM	1 km wide
Region	Range in Lat (deg)	Total Lat (deg)	Total Distance (km)	Area of Region (km^2)
A				
B				
C				
D				

III. Calculate Solar Radiation delivered in each zone			
		distance cm X km/cm	1 km wide
Region	Map Distance (cm)	Real World Distance (km)	Area of Region (km^2)
A			
B			
C			
D			

IV. Calculate Watts delivered per region				
	part C	km^2 x m^2/km^2	distance deg X NM/deg X km/NM	area x radiation per area
Region	Area (km^2)	Area (m^2)	Radiation per m^2	Radiation Per Region (W)
A				
B				
C				
D				

V. Calculate Watts delivered per square meter in each region				
	part D	part B	km^2 X m^2/km^2	area x radiation per area
Region	Radiation delivered per region (W)	Area in each region (km^2)	Area in each region (m^2)	Radiation Per suare meter in per Region (W/m^2)
A				
B				
C				
D				