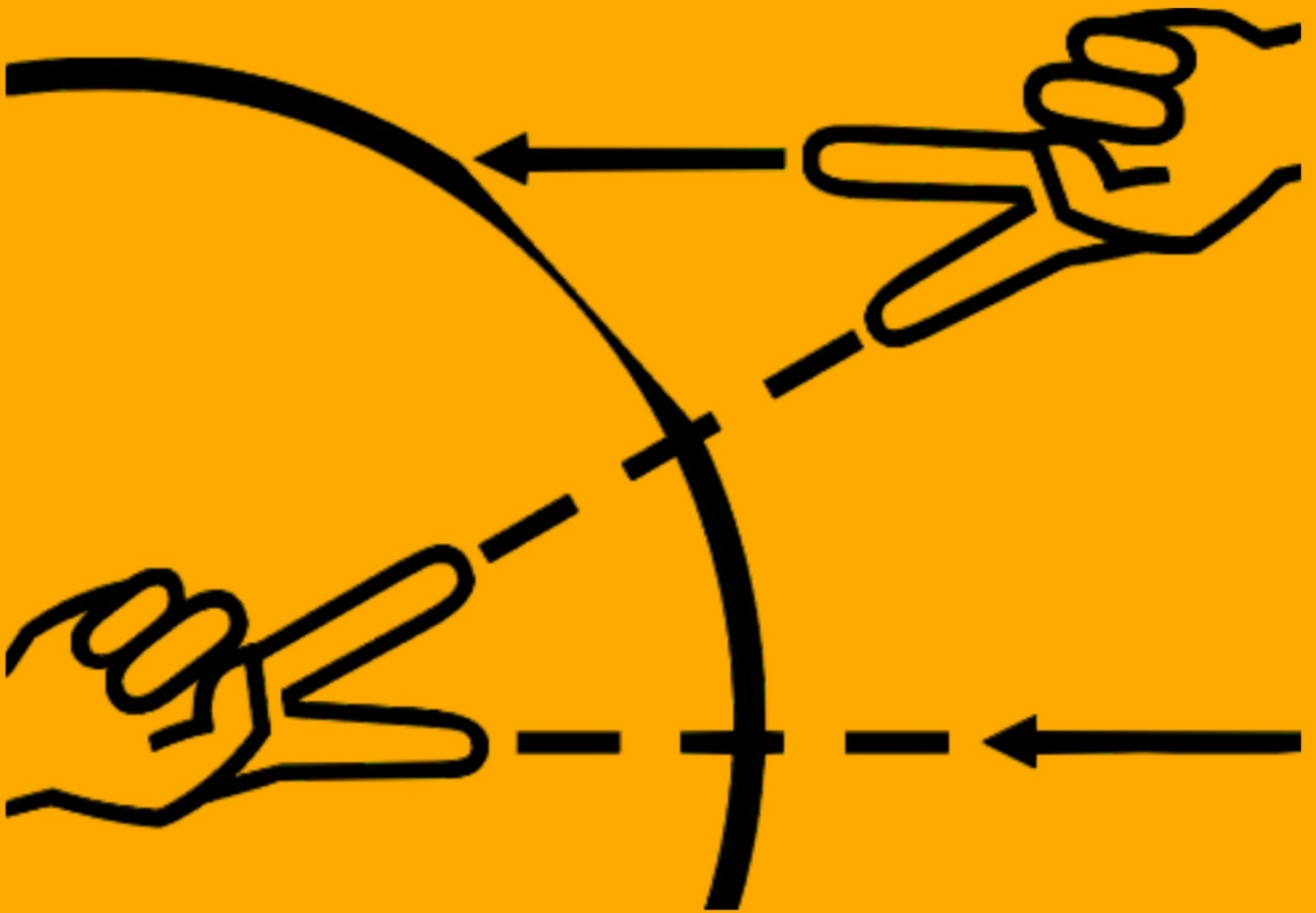


# Eratosthenes



**4** Continents

**14** Countries

**56** Schools

**133** Measures

**4** Continents

**14** Countries

**56** Schools

**133** Measures

**ARGENTINA (1)**

Chivilcoy

**BRAZIL (4)**

Itajubá, Piranguinho, Rio de Janeiro, São Paulo

**COLOMBIA (3)**

Guarne, Medellín, Valencia

**CROATIA (1)**

Zagreb

**FRANCE (3)**

Lafrançaise, Sainte Marie, Toulouse

**GREECE (5)**

Aigio, Athens, Ioannina, Petroupoli, Thiseio

**INDIA (1)**

Yamunanagar

**MALAYSIA (2)**

Cameron Highlands, Kuantan

**PUERTO RICO (1)**

Bayamón

**ROMANIA (4)**

Busteni, Margineni, Râmnicu Vâlcea, Timisoara

**SERBIA (1)**

Novi Sad

**SPAIN (2)**

Úbeda, Vigo

**TUNISIA (1)**

Bizerte

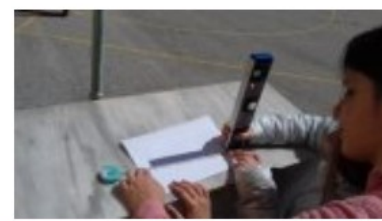
**VIETNAM (27)**


Biên Hòa LQDLBT, Biên Hòa NQ, Bọt Xuyên, Đắk-ơ THCS, Đắk-ơ THPT, Đông Hưng BDQ, Đông Hưng CPHQ, Hà Đông, Hà Nội BVD, Hà Nội Star, Hải Phòng LQD, Hải Phòng TP, Hồ Chí Minh City NAN, Hồ Chí Minh City NT, Hồ Chí Minh City NVL, Hồ Chí Minh City PL, Hoài Đức, Hoàng Giang, Kim Sơn, Nam Định, Ngọc Quan, Tân Thạnh Đông, Thanh Trì, thị trấn Vôi, Thủy Sơn, Toàn Thắng, Vinh

Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Aigio	Greece	1st High School of Aigio	38.252	22.079
	Athens	Greece	Exp school agion anargyron	38.027	23.726
	Bayamón	Puerto Rico	AECM Carribean University	18.383	-66.168
	Biên Hòa QLĐLBT	Việt Nam	Le Quy Don-Long Binh Tan High School	10.909	106.858
	Biên Hòa NQ	Việt Nam	Ngo Quyen High School	10.955	106.826
	Bizerte	Tunisia	Ecole Primaire Raouabi	37.284	9.868
	Bột Xuyên	Việt Nam	THCS Bột Xuyên	20.783	105.716
	Busteni	Romania	Scoala Gimnaziala Sanatoriala	45.416	25.535
	Cameron Highlands	Malaysia	SMK Kampung Raja	4.564	101.408
	Chivilcoy	Argentina	Parque Cielos del Sur	-34.911	-60.014
	Đắk-ơ THCS	Việt Nam	Dak O Secondary School	12.043	107.083
	Đắk-ơ THPT	Việt Nam	Dak O High School	12.043	107.083
	Đông Hưng BDQ	Việt Nam	Bac Dong Quan High School	20.557	106.351
	Đông Hưng CPHQ	Việt Nam	THCS chuyên Phạm Huy Quang	20.560	106.354
	Guarne	Colombia	Grupo Astrofánaticos	6.274	-75.447
	Hà Đông	Việt Nam	Trần Hưng Đạo Hà Đông High school	20.943	105.758
	Hà Nội BVD	Việt Nam	THCS Bế Văn Đàn	21.014	105.829
	Hà Nội Star	Việt Nam	Ngoi sao Ha Noi Secondary School	21.005	105.802
	Hải Phòng LQD	Việt Nam	Lê Quý Đôn High School	20.827	106.707
	Hải Phòng TP	Việt Nam	Thai Phien High School	20.861	106.706
	Hồ Chí Minh City NAN	Việt Nam	Nguyen An Ninh High School	10.762	106.674
	Hồ Chí Minh City NT	Việt Nam	Nguyen Trai High School	10.760	106.712
	Hồ Chí Minh City NVL	Việt Nam	THPT Nguyễn Văn Linh	10.702	106.621
	Hồ Chí Minh City PL	Việt Nam	Phuoc Long High School	10.817	106.775
	Hoài Đức	Việt Nam	Van Xuân High school	21.046	105.678
	Hoàng Giang	Việt Nam	Hoang Giang Secondary School	19.886	105.769
	Ioannina	Greece	Collège Modèle Zossiméas Scholis	39.665	20.846
	Itajubá	Brazil	Universidade Federal de Itajubá	-22.145	-45.449

Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Kim Sơn	Việt Nam	Kim Sơn Secondary School	21.026	105.987
	Kuantan	Malaysia	SMK Semambu	3.870	103.325
	Lafrançaise	France	Collège Antonin Perbosc	44.127	1.237
	Margineni	Romania	Secondary School Gh. Popescu	44.533	24.554
	Medellin Loyola	Colombia	Colegio Loyola	6.297	-75.574
	Nam Định	Việt Nam	Mỹ Lộc High School	20.444	106.129
	Ngọc Quan	Việt Nam	Ngoc Quan High School	21.622	105.162
	Novi Sad	Serbia	Osnovna škola "Vasa Stajic"	45.246	19.827
	Petroupoli	Greece	4th Junior High School	38.036	23.674
	Piranguinho	Brazil	Universidade Federal de Itajubá	-22.411	-45.535
	Râmnicu Vâlcea	Romania	SG Nr4 Gradinita Dumbrava Minuata	45.093	24.358
	Rio de Janeiro	Brazil	Centro Educacional Nosso Mundo	-22.890	-43.317
	Sainte Marie	France	Ecole Élémentaire Publique	43.661	0.874
	São Paulo	Brazil	Colégio Miguel de Cervantes	-23.586	-46.610
	Tân Thạnh Đông	Việt Nam	Trung Phu High School	10.982	106.580
	Thanh Trì	Việt Nam	Thanh Tri secondary school	10.357	106.610
	thị trấn Vôi	Việt Nam	Voi Secondary School	21.358	106.254
	Thiseio	Greece	Athens Old Observatory	37.974	23.720
	Thủy Sơn	Việt Nam	Ly Thuong Kiet High School	20.926	106.654
	Timisoara	Romania	Liceul Ioan Slavici	45.745	21.252
	Toàn Thắng	Việt Nam	Nghĩa Dan High school	20.790	106.049
	Toulouse	France	Cité de l'Espace	43.587	1.493
	Úbeda	Spain	Colegio Salesiano Santo Domingo Savio	38.017	-3.367
	Valencia	Colombia	Institución educativa A. Santos	8.267	-76.133
	Vigo	Spain	IES de Beade	42.201	-8.716
	Vinh	Việt Nam	THPT Dân tộc Nội trú số 2	18.748	105.690
	Yamunanagar	India	CV Raman VIPNET Science Club	30.140	77.275
	Zagreb	Croatia	Elementary School Petar Zrinski	45.812	15.959

# Aigio, Greece

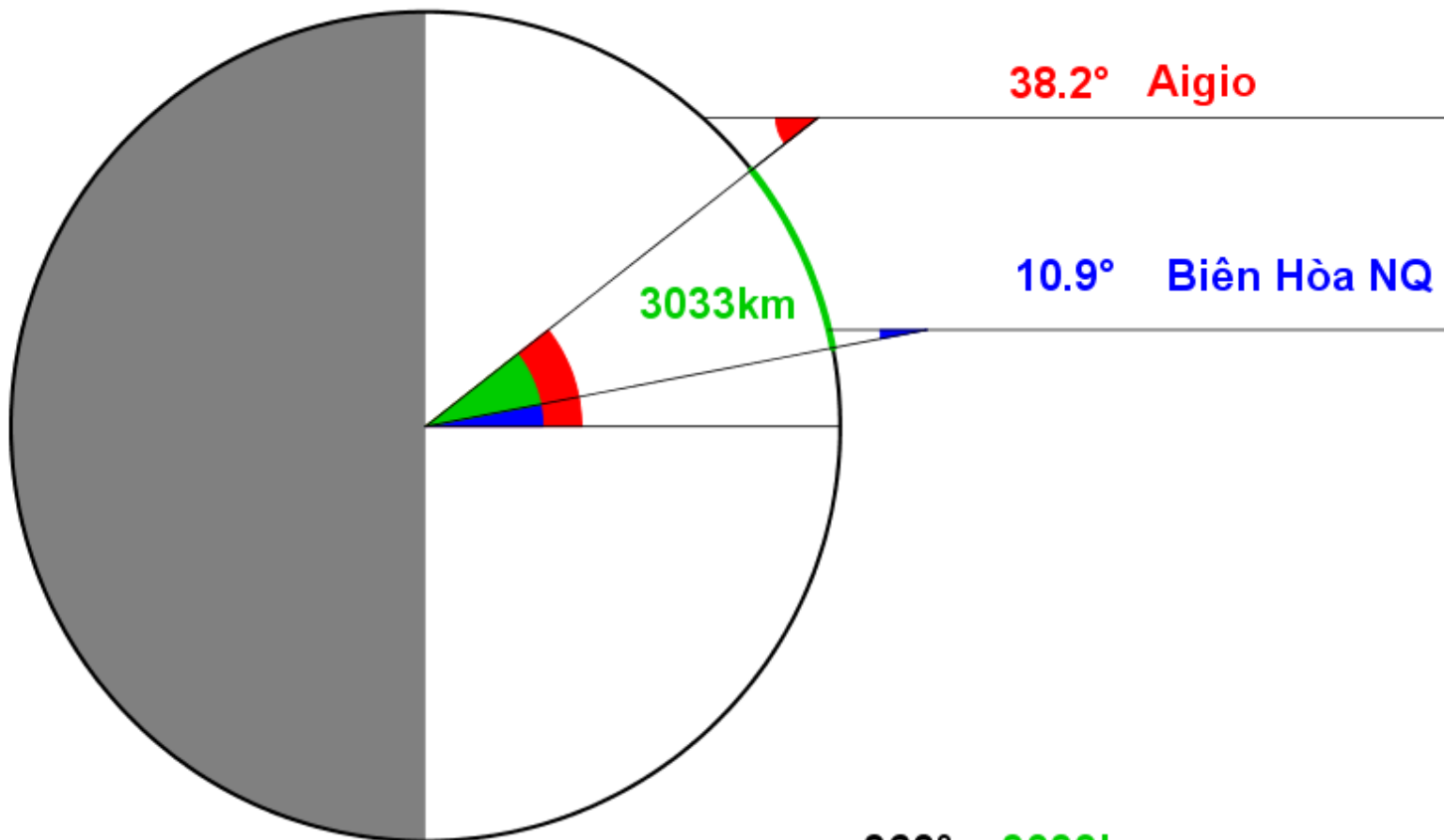


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Aigio	Greece	1st High School of Aigio	38.252	22.079

Date	Gnomon	Shadow	Angle
04 March 2019	30.0 cm	30.0 cm	45.0 °
07 March 2019	30.0 cm	28.8 cm	43.8 °
14 March 2019	30 cm	26 cm	40.9 °
18 March 2019	30.0 cm	24.5 cm	39.2 °
19 March 2019	30.0 cm	24.0 cm	38.7 °
21 March 2019	30 cm	23.6 cm	38.2 °

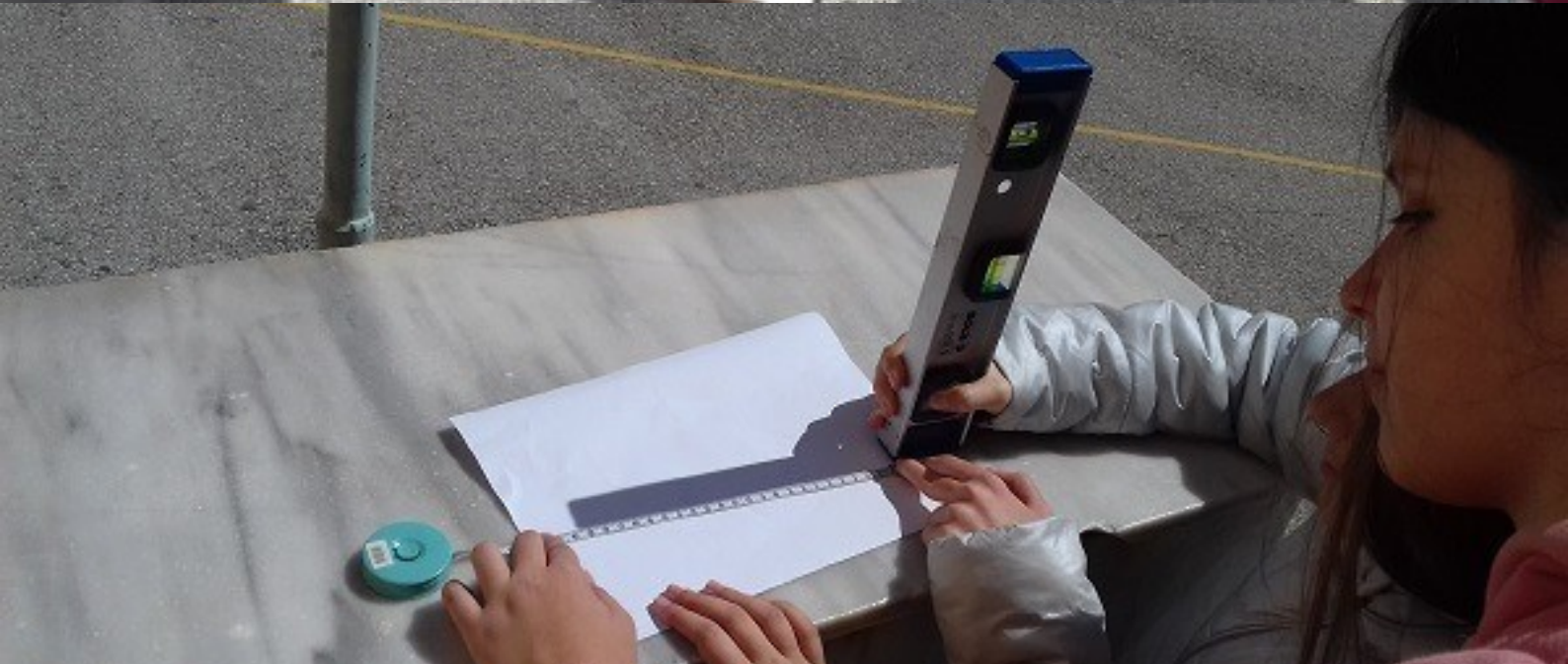
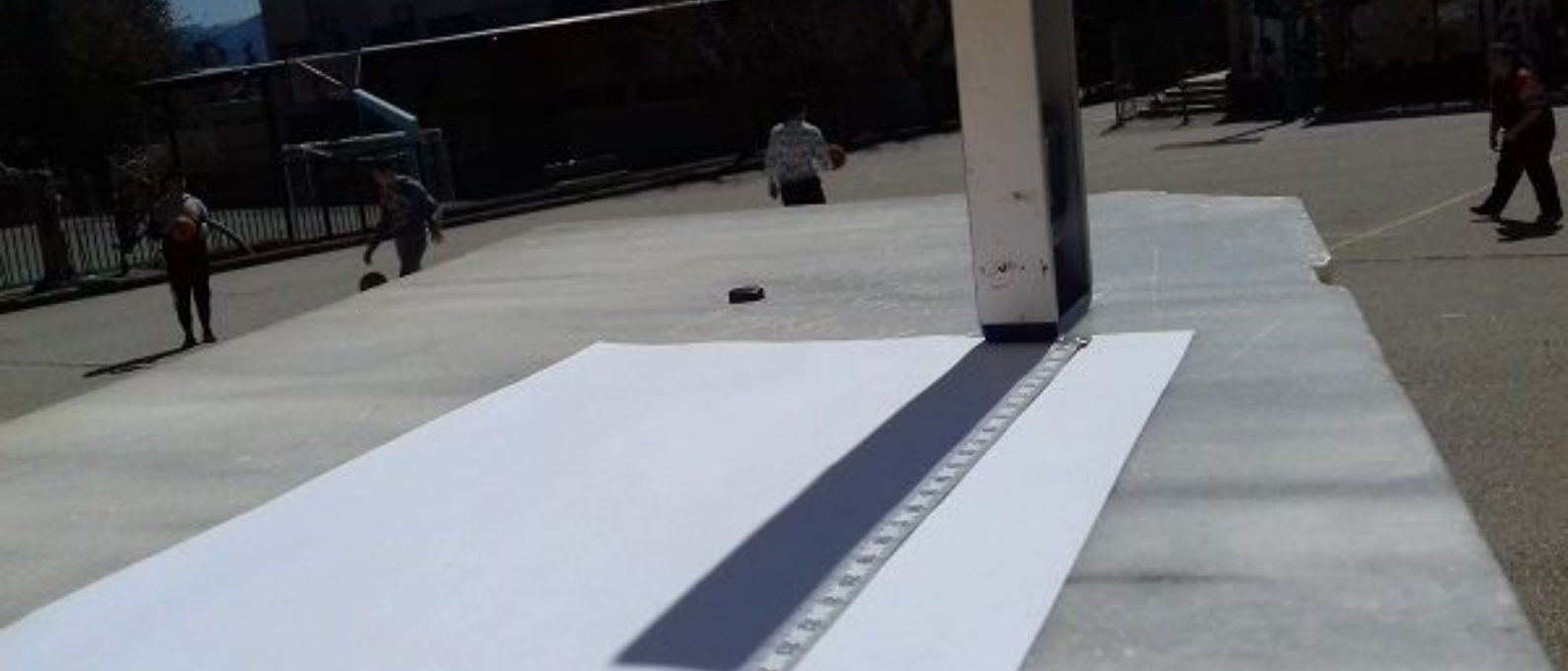
21/03/2019 (Aigio-Greece) Latitude: 38.252°

21/03/2019 (Biên Hòa NQ-Việt Nam) Latitude: 10.955°




$$\text{circumference} = \frac{360^\circ \times 3033\text{km}}{38.2^\circ - 10.9^\circ} = 39996 \text{ km}$$

Distance	Angle
circumference	360°
3033km	38.2° - 10.9°



# Athens, Greece

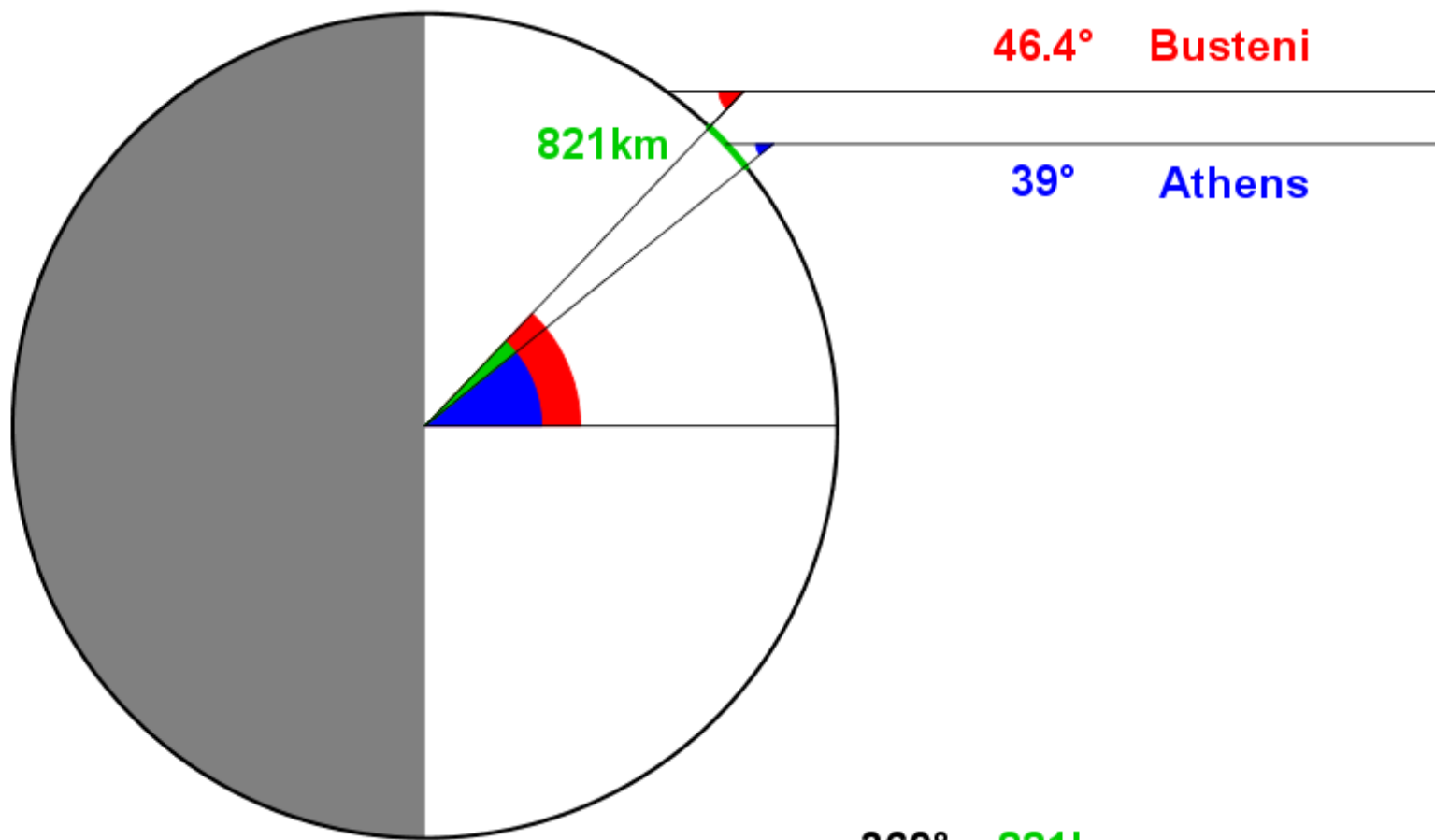


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Athens	Greece	Exp school agion anargyron	38.027	23.726

Date	Gnomon	Shadow	Angle
05 March 2019	49 cm	47.5 cm	44.1 °
18 March 2019	247.0 cm	200.0 cm	39.0 °
19 March 2019	49.0 cm	40.0 cm	39.2 °
20 March 2019	246.0 cm	197.0 cm	38.7 °

18/03/2019 (Busteni-Romania) Latitude: 45.416°

18/03/2019 (Athens-Greece) Latitude: 38.027°




Distance	Angle
circumference	360°
821km	46.4° - 39°

$$\text{circumference} = \frac{360^\circ \times 821\text{km}}{46.4^\circ - 39^\circ} = 39941 \text{ km}$$



# Bayamón, Puerto Rico

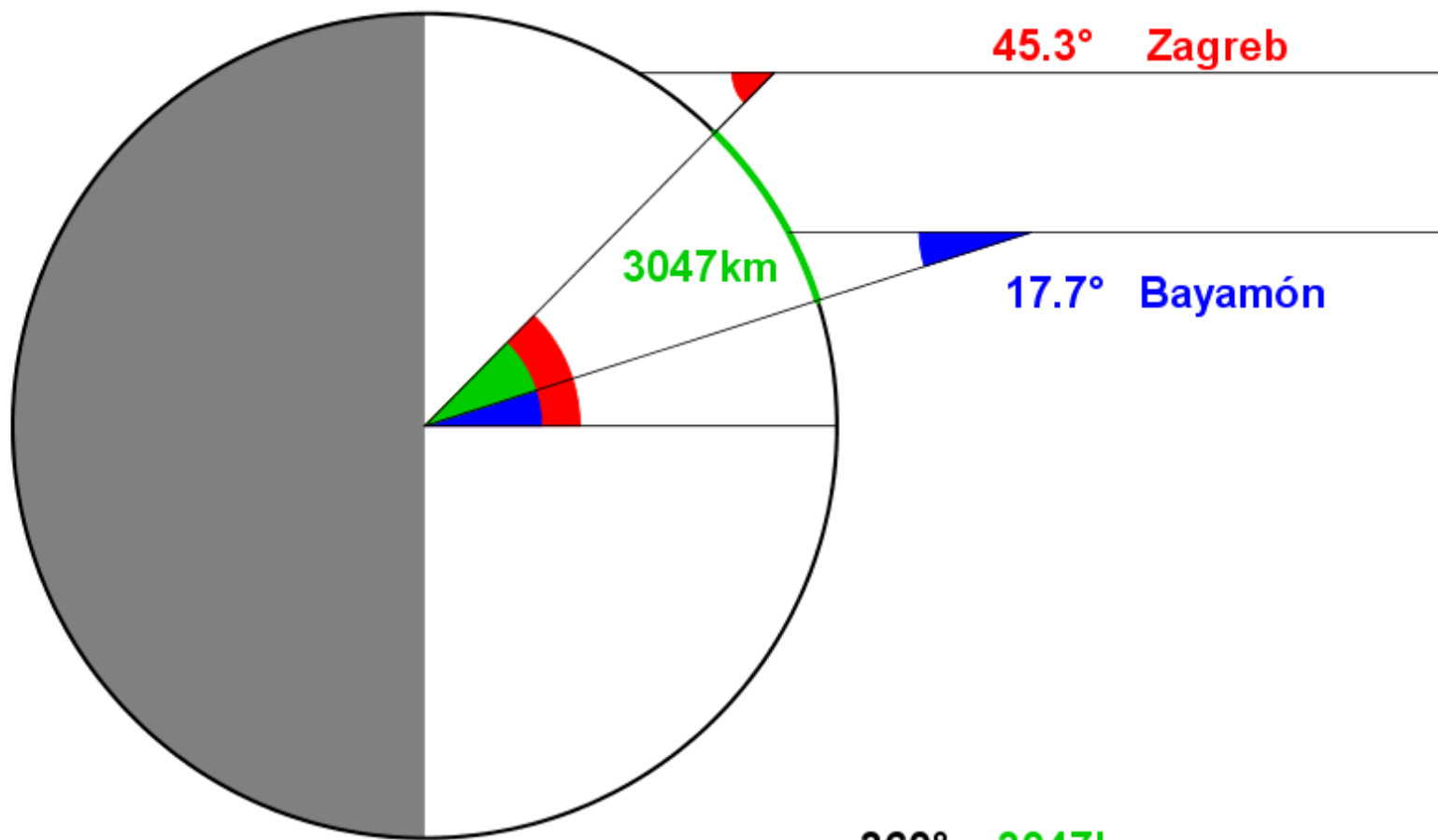


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Bayamón	Puerto Rico	AECM Carribbean University	18.383	-66.168

Date	Gnomon	Shadow	Angle
18 March 2019	100.0 cm	40.0 cm	21.8 °
19 March 2019	25.0 cm	10.0 cm	21.8 °
20 March 2019	25.0 cm	9.0 cm	19.8 °
21 March 2019	100 cm	32 cm	17.7 °

21/03/2019 (Zagreb-Croatia) Latitude: 45.812°

21/03/2019 (Bayamón-Puerto Rico) Latitude: 18.383°



Distance	Angle
circumference	360°
3047km	45.3° - 17.7°

$$\text{circumference} = \frac{360^\circ \times 3047\text{km}}{45.3^\circ - 17.7^\circ} = 39743 \text{ km}$$





# Biên Hòa LQDLBT, Việt Nam

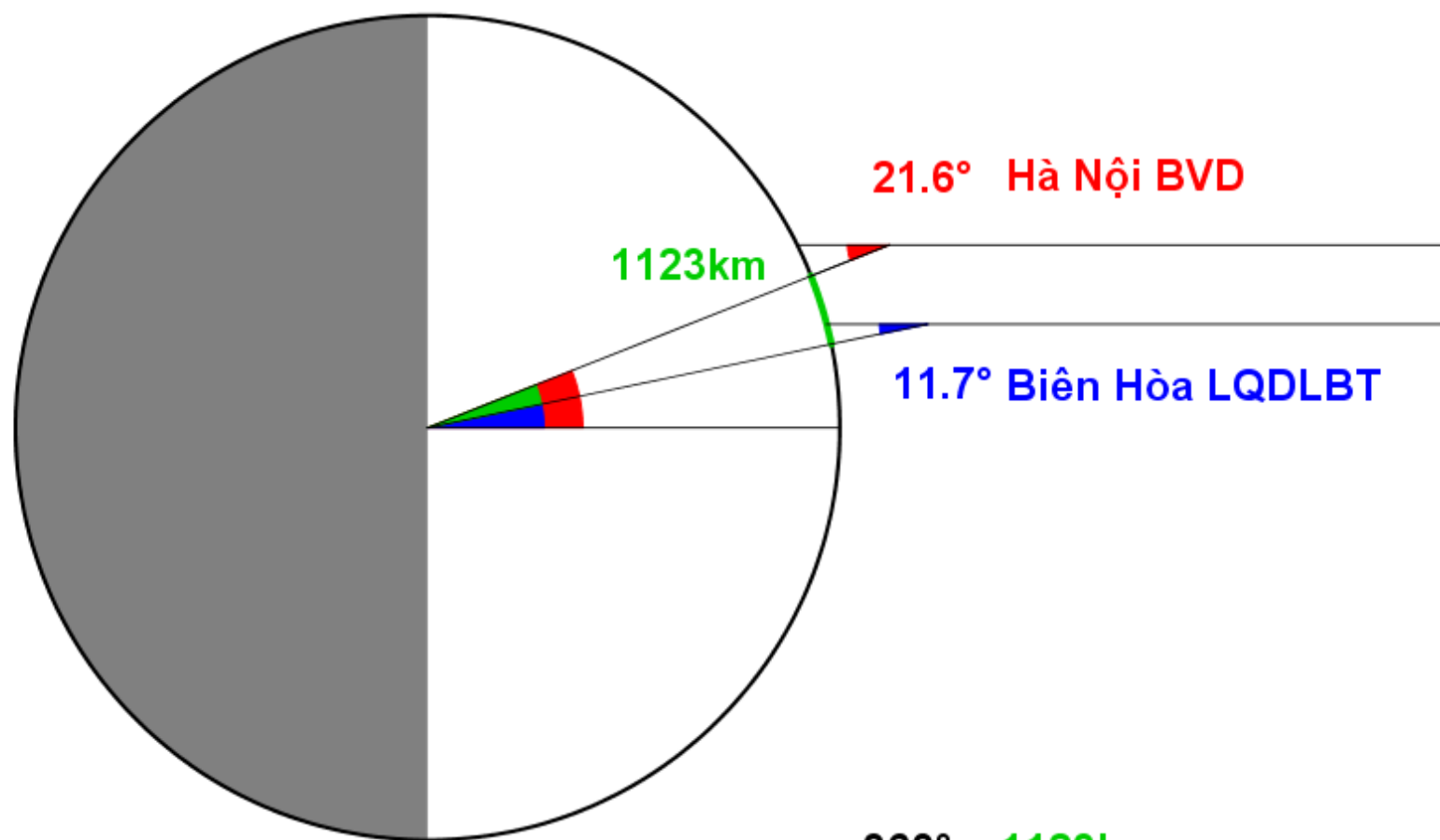


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Biên Hòa LQDLBT	Việt Nam	Le Quy Don-Long Binh Tan High School	10.909	106.858

Date	Gnomon	Shadow	Angle
21 March 2019	53 cm	11 cm	11.7 °

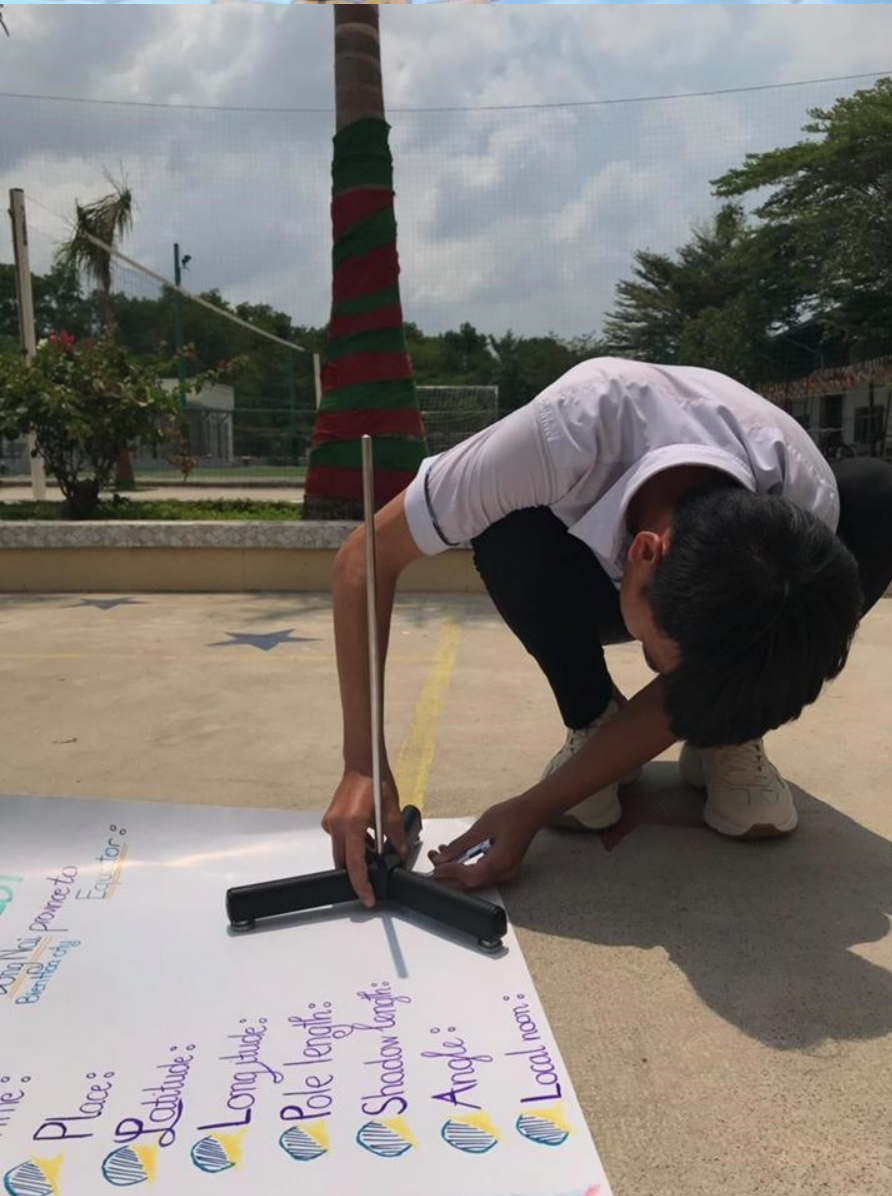
21/03/2019 (Hà Nội BVD-Việt Nam) Latitude: 21.014°

21/03/2019 (Biên Hòa LQDLBT-Việt Nam) Latitude: 10.909°



Distance	Angle
circumference	360°
1123km	21.6° - 11.7°

$$\text{circumference} = \frac{360^\circ \times 1123\text{km}}{21.6^\circ - 11.7^\circ} = 40836 \text{ km}$$



# Biên Hòa NQ, Việt Nam

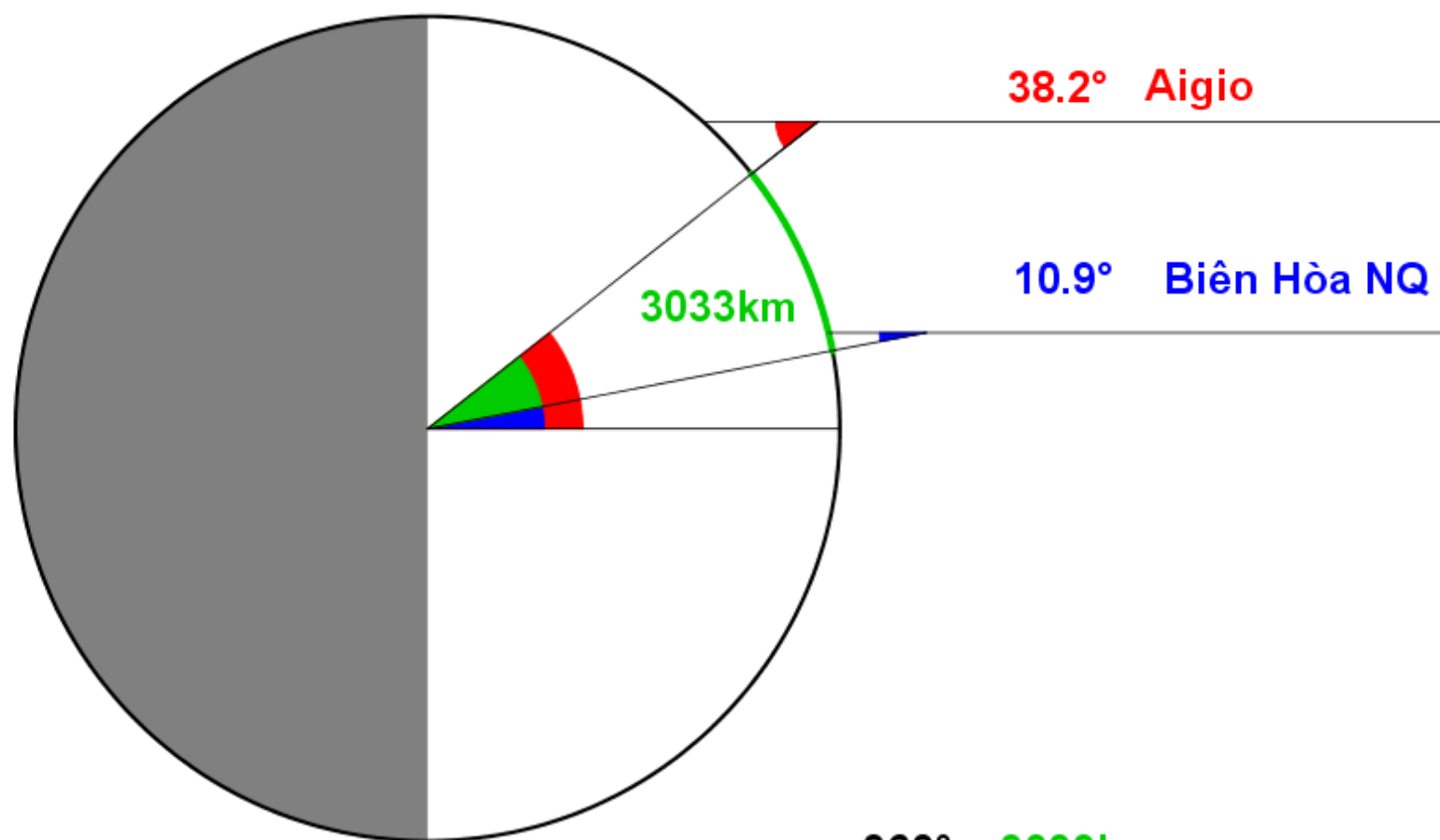


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Biên Hòa NQ	Việt Nam	Ngo Quyen High School	10.955	106.826

Date	Gnomon	Shadow	Angle
21 March 2019	54.5 cm	10.5 cm	10.9 °

21/03/2019 (Aigio-Greece) Latitude: 38.252°

21/03/2019 (Biên Hòa NQ-Việt Nam) Latitude: 10.955°



Distance	Angle
circumference	360°
3033km	38.2° - 10.9°

$$\text{circumference} = \frac{360^\circ \times 3033\text{km}}{38.2^\circ - 10.9^\circ} = 39996 \text{ km}$$



# Bizerte, Tunisia

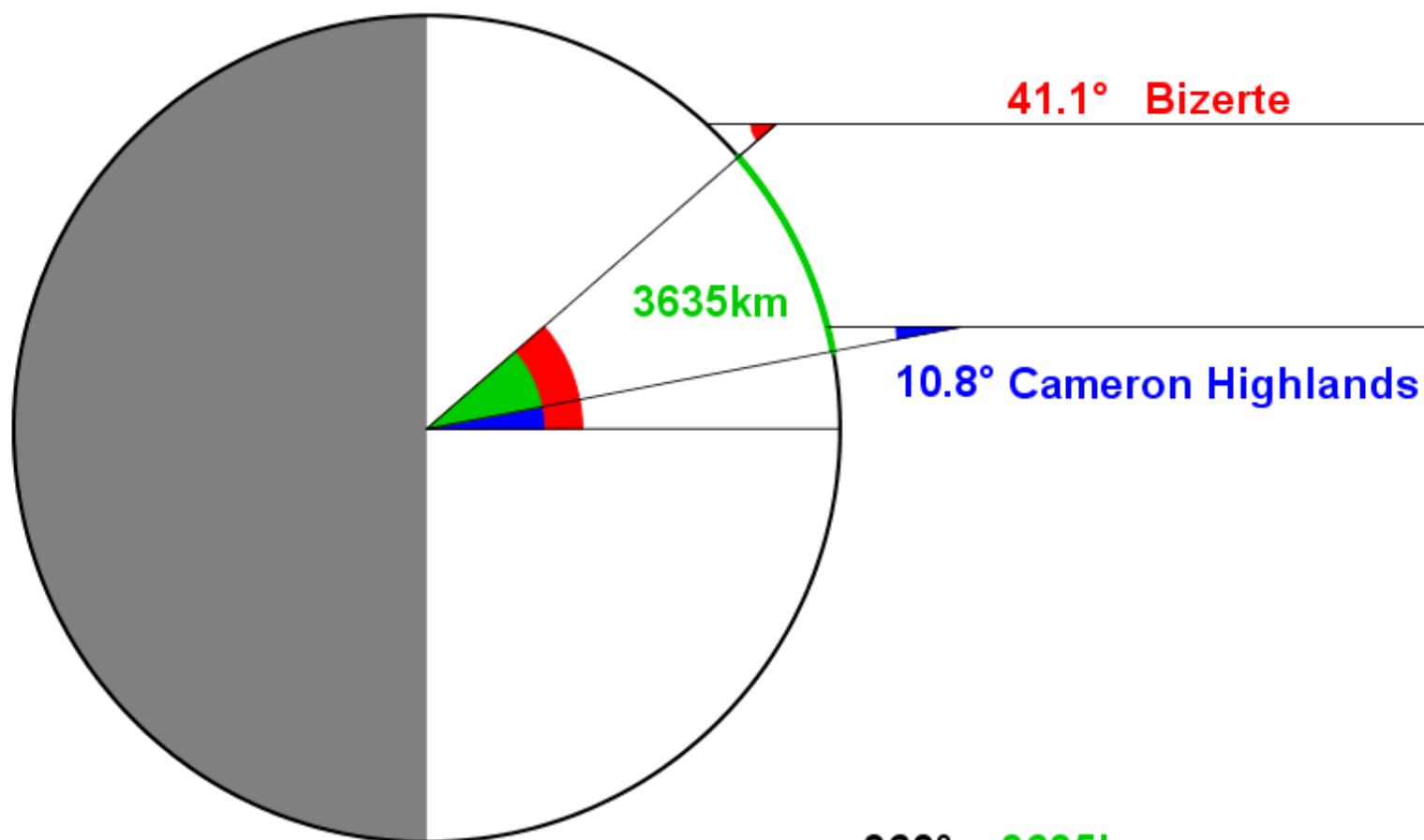


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Bizerte	Tunisia	Ecole Primaire Raouabi	37.284	9.868

Date	Gnomon	Shadow	Angle
04 March 2019	68.3 cm	59.5 cm	41.1 °

04/03/2019 (Bizerte-Tunisia) Latitude: 37.284°

05/03/2019 (Cameron Highlands-Malaysia) Latitude: 4.564°



$$\text{circumference} = \frac{360^\circ \times 3635\text{km}}{41.1^\circ - 10.8^\circ} = 43188 \text{ km}$$

Distance	Angle
circumference	360°
3635km	41.1° - 10.8°



# Bột Xuyên, Việt Nam

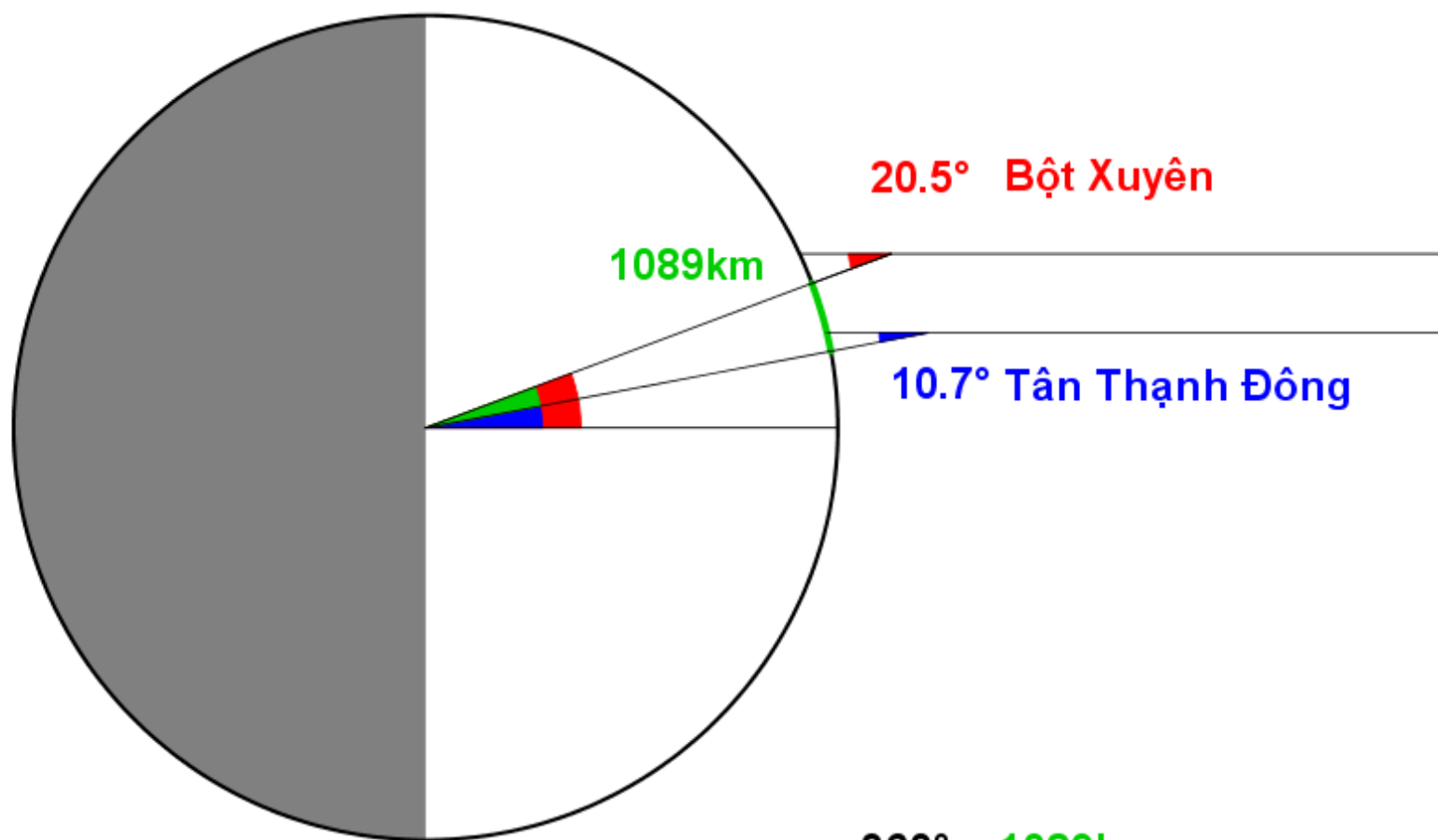


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Bột Xuyên	Việt Nam	THCS Bột Xuyên	20.783	105.716

Date	Gnomon	Shadow	Angle
21 March 2019	49.3 cm	18.4 cm	20.5 °

21/03/2019 (Bột Xuyên-Việt Nam) Latitude: 20.783°

21/03/2019 (Tân Thành Đông-Việt Nam) Latitude: 10.982°



$$\text{circumference} = \frac{360^\circ \times 1089\text{km}}{20.5^\circ - 10.7^\circ} = 40004 \text{ km}$$

Distance	Angle
circumference	360°
1089km	20.5° - 10.7°





# Busteni, Romania

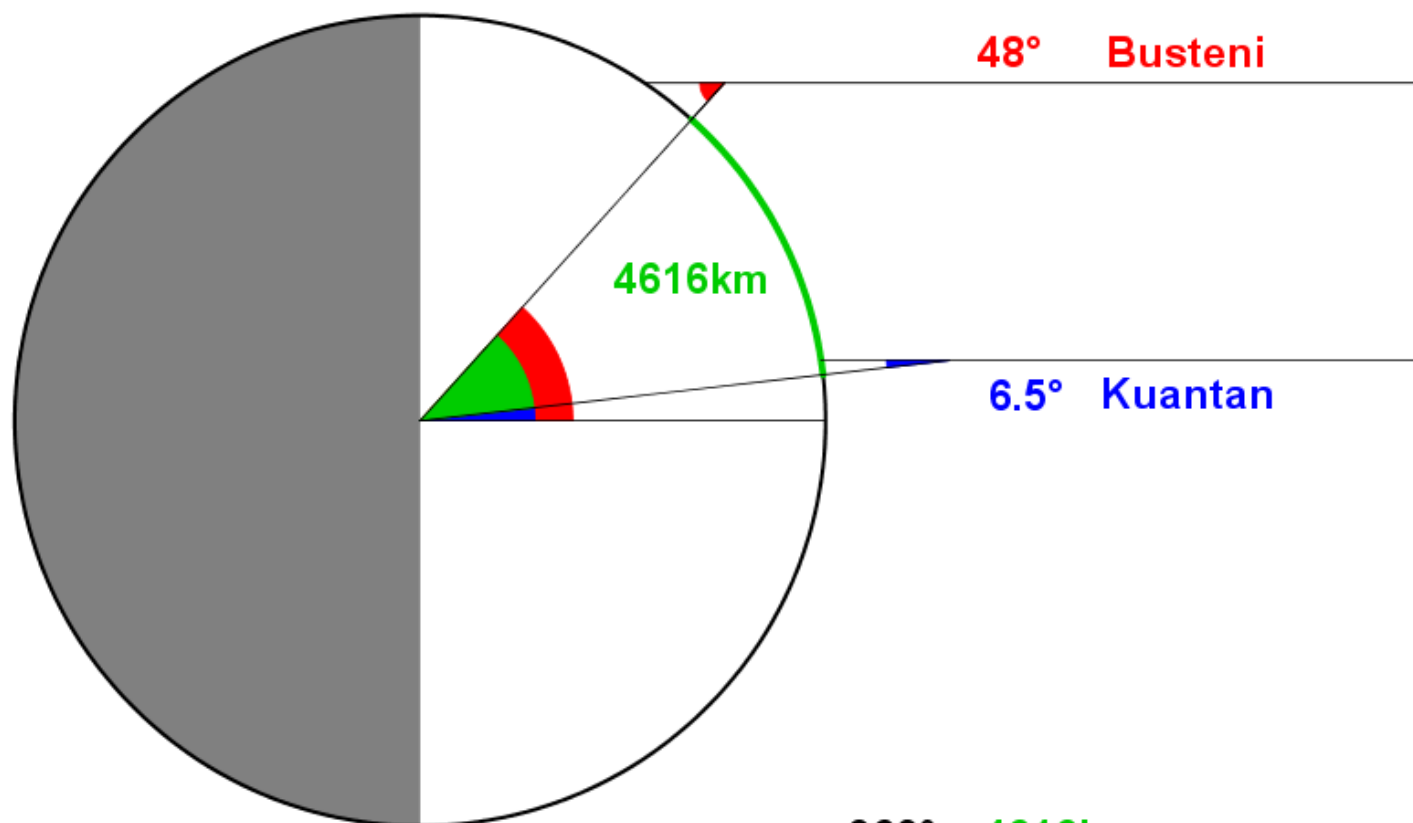


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Busteni	Romania	Scoala Gimnaziala Sanatoriala	45.416	25.535

Date	Gnomon	Shadow	Angle
01 March 2019	12.0 cm	16.0 cm	53.1 °
05 March 2019	50 cm	63 cm	51.6 °
08 March 2019	10 cm	12.3 cm	50.9 °
11 March 2019	100 cm	115.9 cm	53.1 °
13 March 2019	100.0 cm	112.7 cm	48.4 °
14 March 2019	100.0 cm	111.1 cm	48.0 °
15 March 2019	100.0 cm	109.5 cm	47.6 °
18 March 2019	100.0 cm	105.0 cm	46.4 °
19 March 2019	100.0 cm	103.5 cm	46.0 °
20 March 2019	100.0 cm	102.1 cm	45.6 °
21 March 2019	17.9 cm	18 cm	45.2 °
22 March 2019	100 cm	99.3 cm	44.8 °
25 March 2019	100 cm	95.2 cm	43.6 °
27 March 2019	100 cm	92.5 cm	42.8 °
28 March 2019	100 cm	91.2 cm	42.4 °
29 March 2019	100 cm	90 cm	42 °

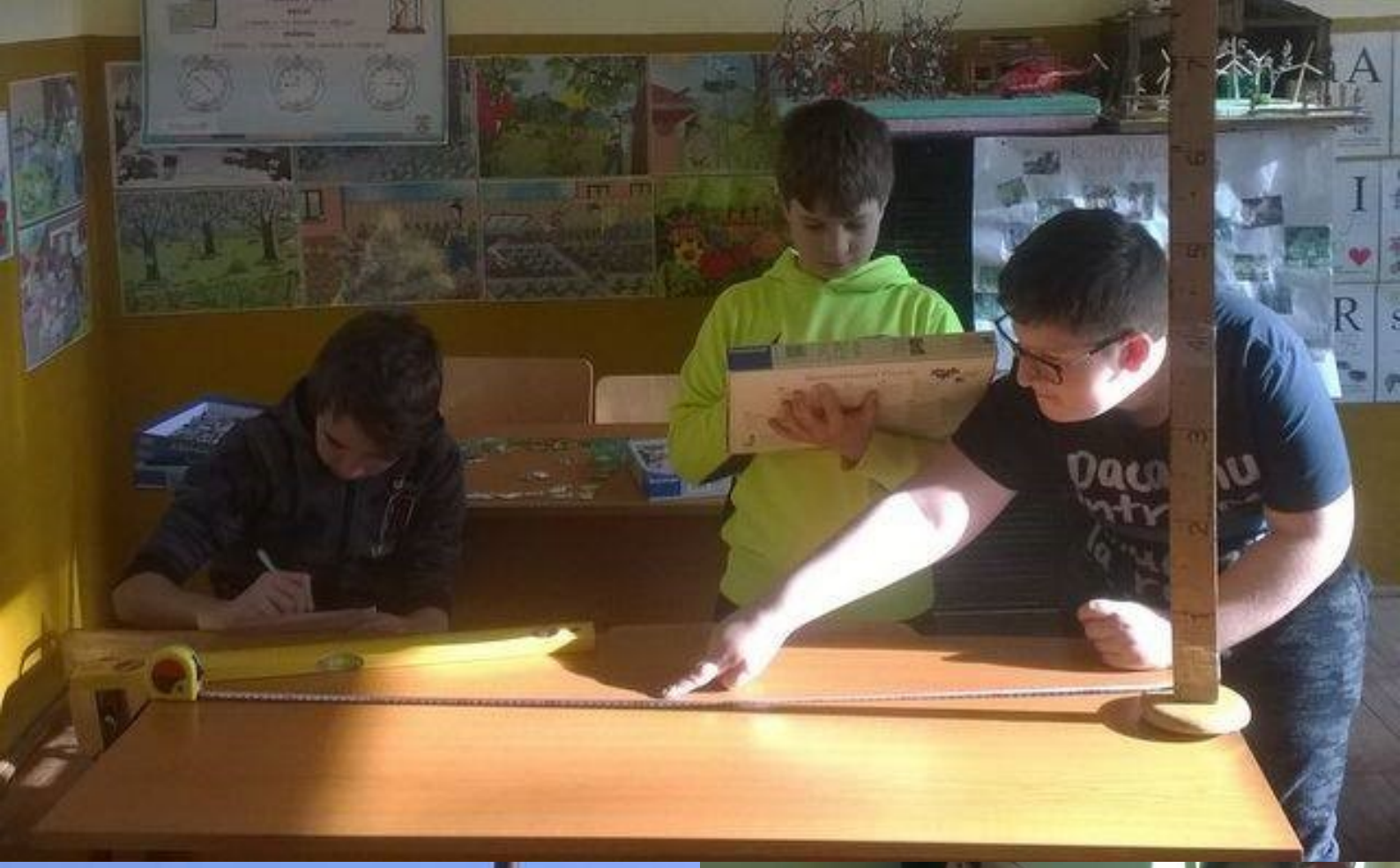
14/03/2019 (Busteni-Romania) Latitude: 45.416°

14/03/2019 (Kuantan-Malaysia) Latitude: 3.87°



Distance	Angle
circumference	360°
4616km	48° - 6.5°

$$\text{circumference} = \frac{360^\circ \times 4616\text{km}}{48^\circ - 6.5^\circ} = 40042 \text{ km}$$



# Cameron Highlands, Malaysia

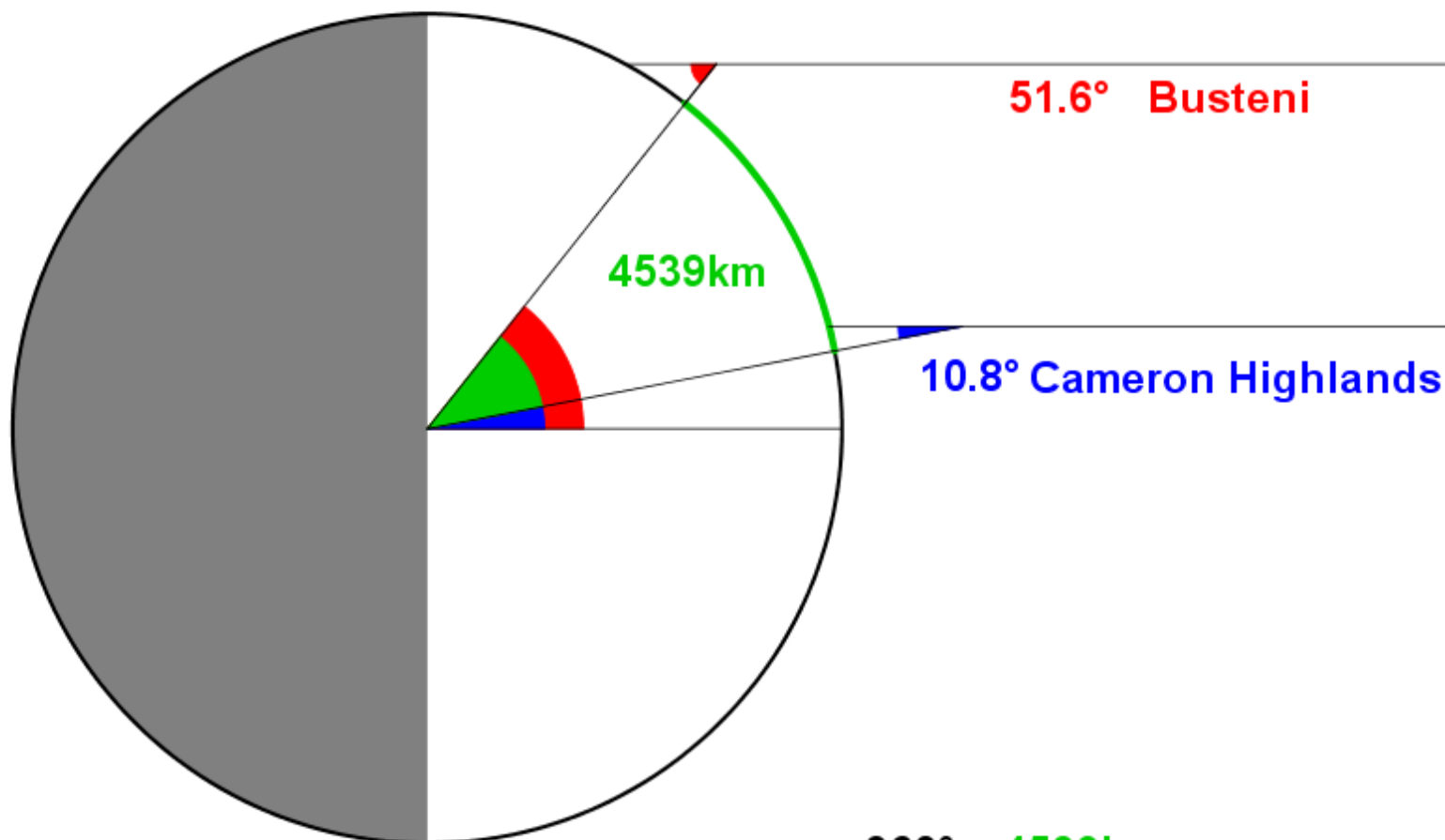


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Cameron Highlands	Malaysia	SMK Kampung Raja	4.564	101.408

Date	Gnomon	Shadow	Angle
05 March 2019	73.7 cm	14 cm	10.8 °
12 March 2019	73.7 cm	10.6 cm	8.2 °
20 March 2019	35.5 cm	3.5 cm	5.6 °

05/03/2019 (Busteni-Romania) Latitude: 45.416°

05/03/2019 (Cameron Highlands-Malaysia) Latitude: 4.564°



$$\text{circumference} = \frac{360^\circ \times 4539\text{km}}{51.6^\circ - 10.8^\circ} = 40050 \text{ km}$$

Distance	Angle
circumference	360°
4539km	51.6° - 10.8°



# Chivilcoy, Argentina

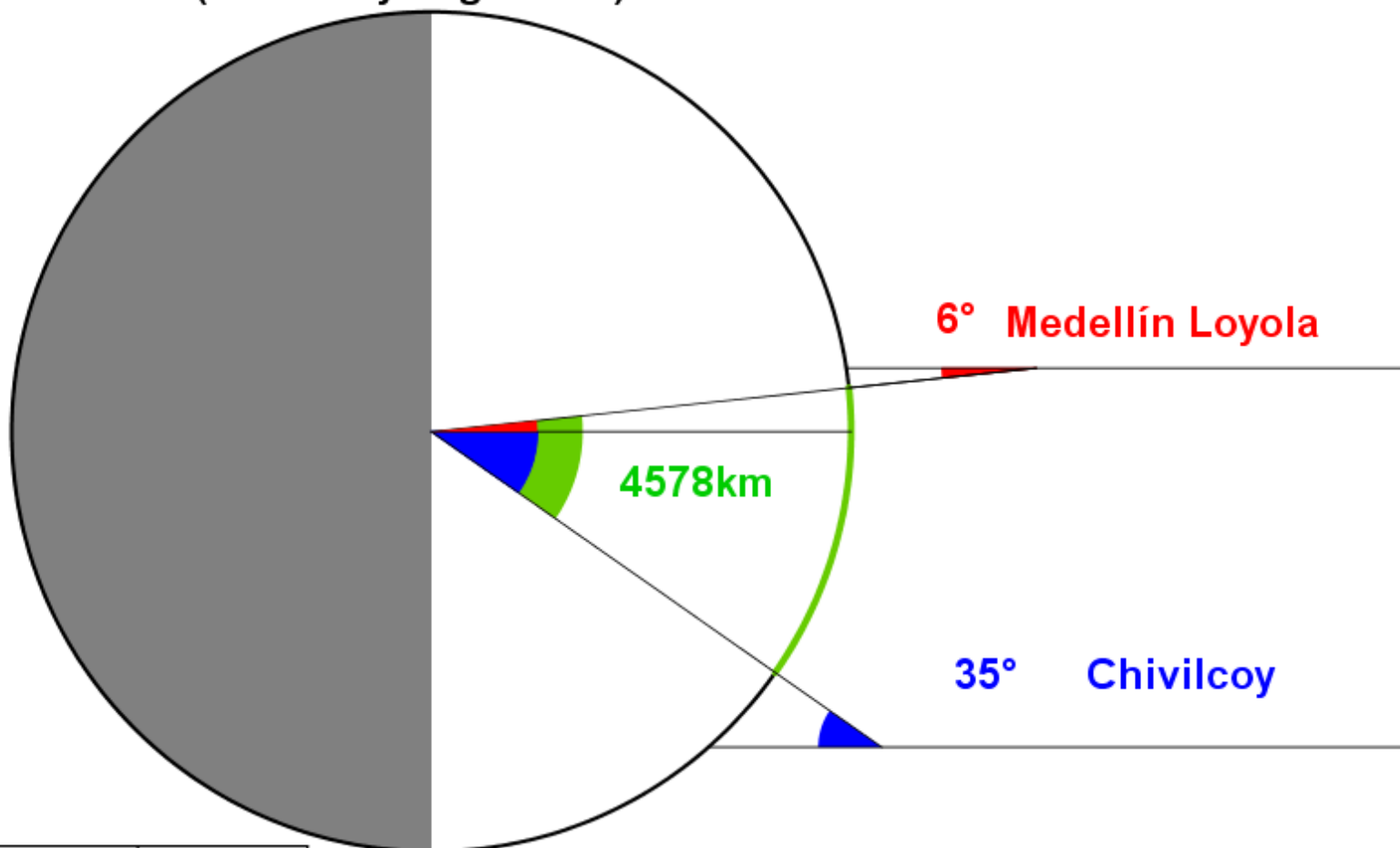


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Chivilcoy	Argentina	Parque Cielos del Sur	-34.911	-60.014

Date	Gnomon	Shadow	Angle
20 March 2019	60.0 cm	-42.0 cm	-35.0 °

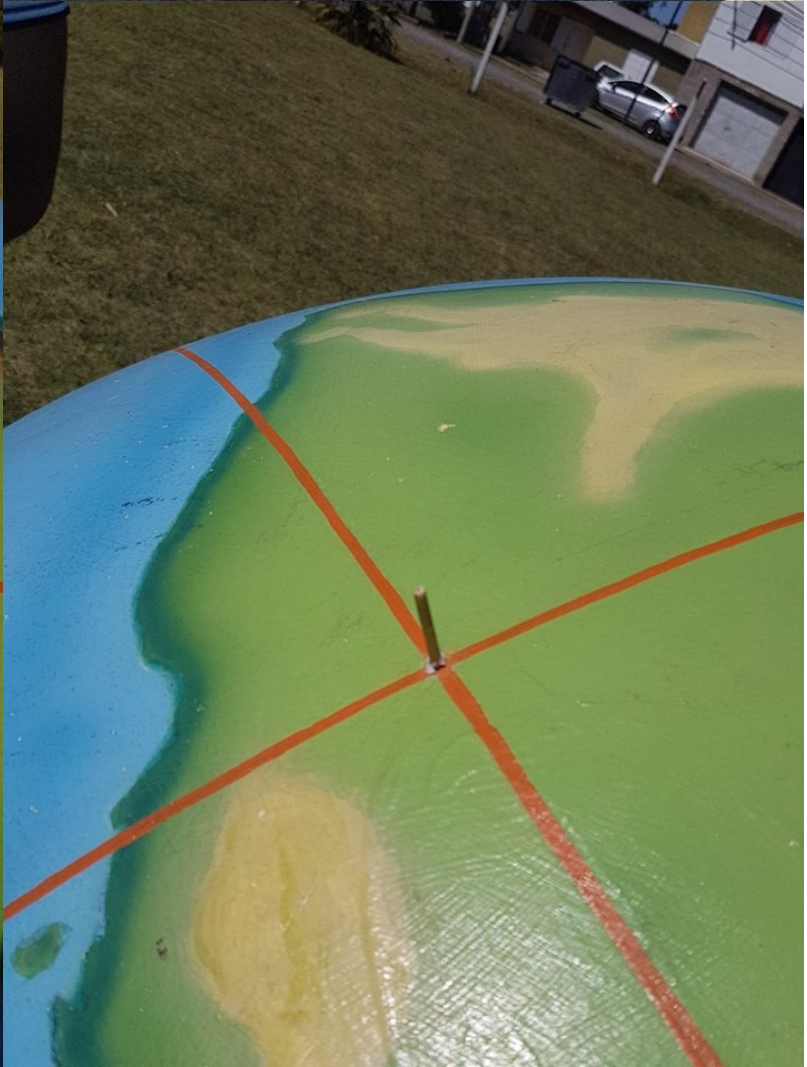
20/03/2019 (Medellín Loyola-Colombia) Latitude: 6.297°

20/03/2019 (Chivilcoy-Argentina) Latitude: -34.911°



Distance	Angle
circumference	360°
4578km	6° + 35°

$$\text{circumference} = \frac{360^\circ \times 4578\text{km}}{6^\circ + 35^\circ} = 40197 \text{ km}$$



# Đắk-ơ THCS, Việt Nam

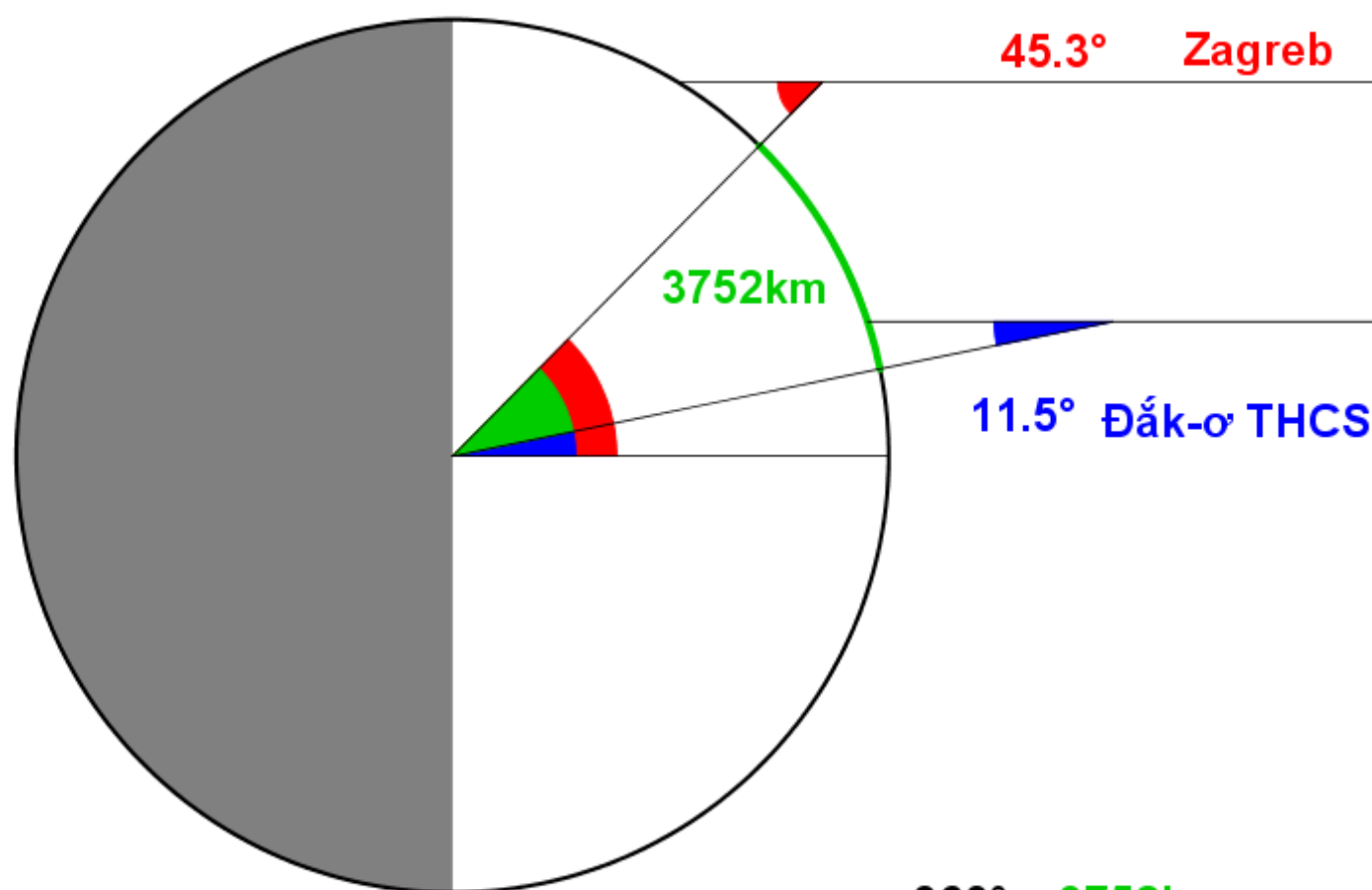


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Đắk-ơ THCS	Việt Nam	Dak O Secondary School	12.043	107.083

Date	Gnomon	Shadow	Angle
21 March 2019	49 cm	10 cm	11.5 °

21/03/2019 (Zagreb-Croatia) Latitude: 45.812°

21/03/2019 (Đắk-ơ THCS-Việt Nam) Latitude: 12.043°



Distance	Angle
circumference	360°
3752km	45.3° - 11.5°

$$\text{circumference} = \frac{360^\circ \times 3752\text{km}}{45.3^\circ - 11.5^\circ} = 39962 \text{ km}$$





# Đắk-ơ THPT, Việt Nam

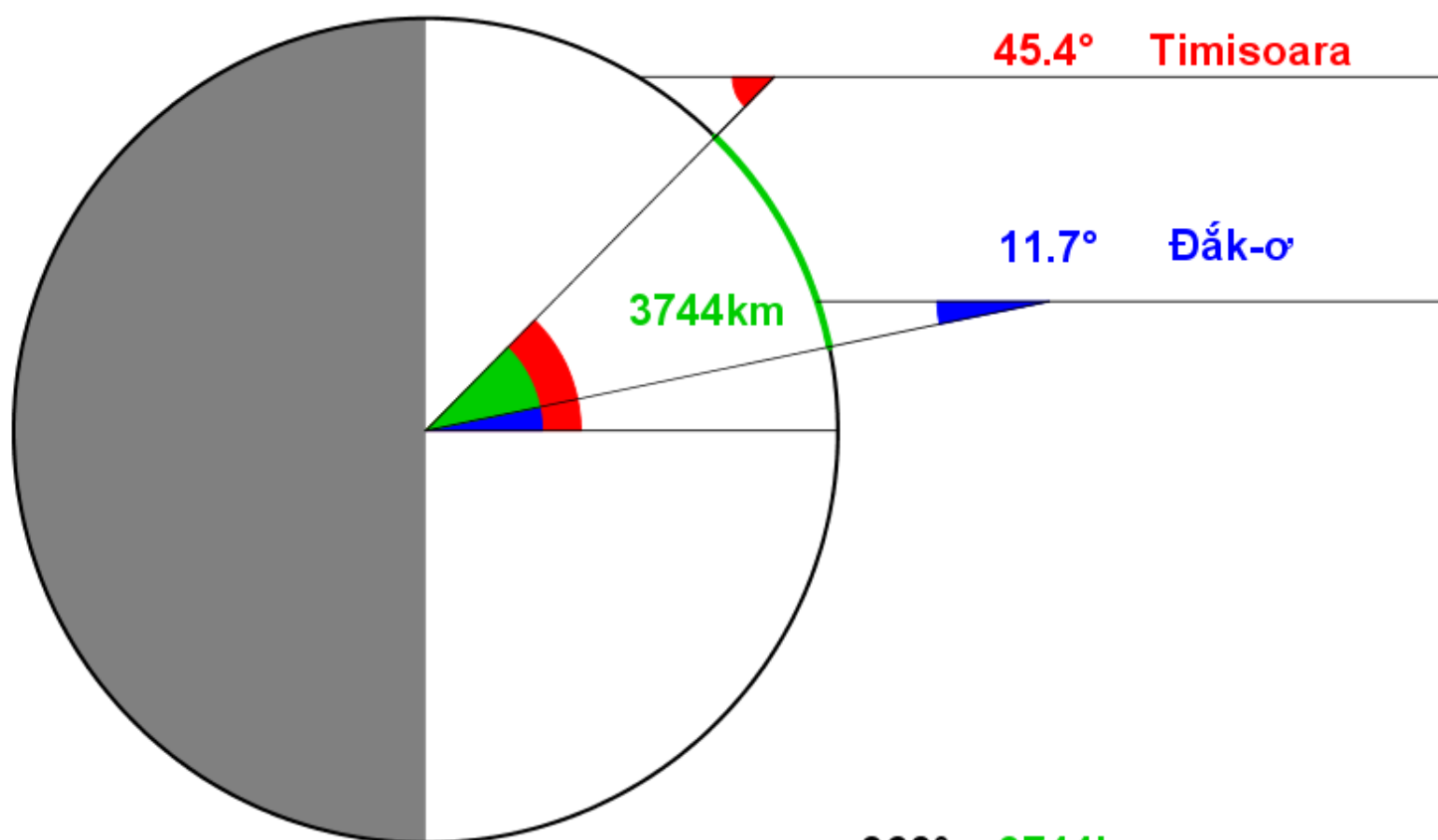


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Đắk-ơ THPT	Việt Nam	Dak O High School	12.043	107.083

Date	Gnomon	Shadow	Angle
21 March 2019	63.7 cm	13.2 cm	11.7 °

21/03/2019 (Timisoara-Romania) Latitude: 45.745°

21/03/2019 (Đắk-ơ-Việt Nam) Latitude: 12.043°



Distance	Angle
circumference	360°
3744km	45.4° - 11.7°

$$\text{circumference} = \frac{360^\circ \times 3744\text{km}}{45.4^\circ - 11.7^\circ} = 39995 \text{ km}$$



# Đông Hưng BDQ, Việt Nam

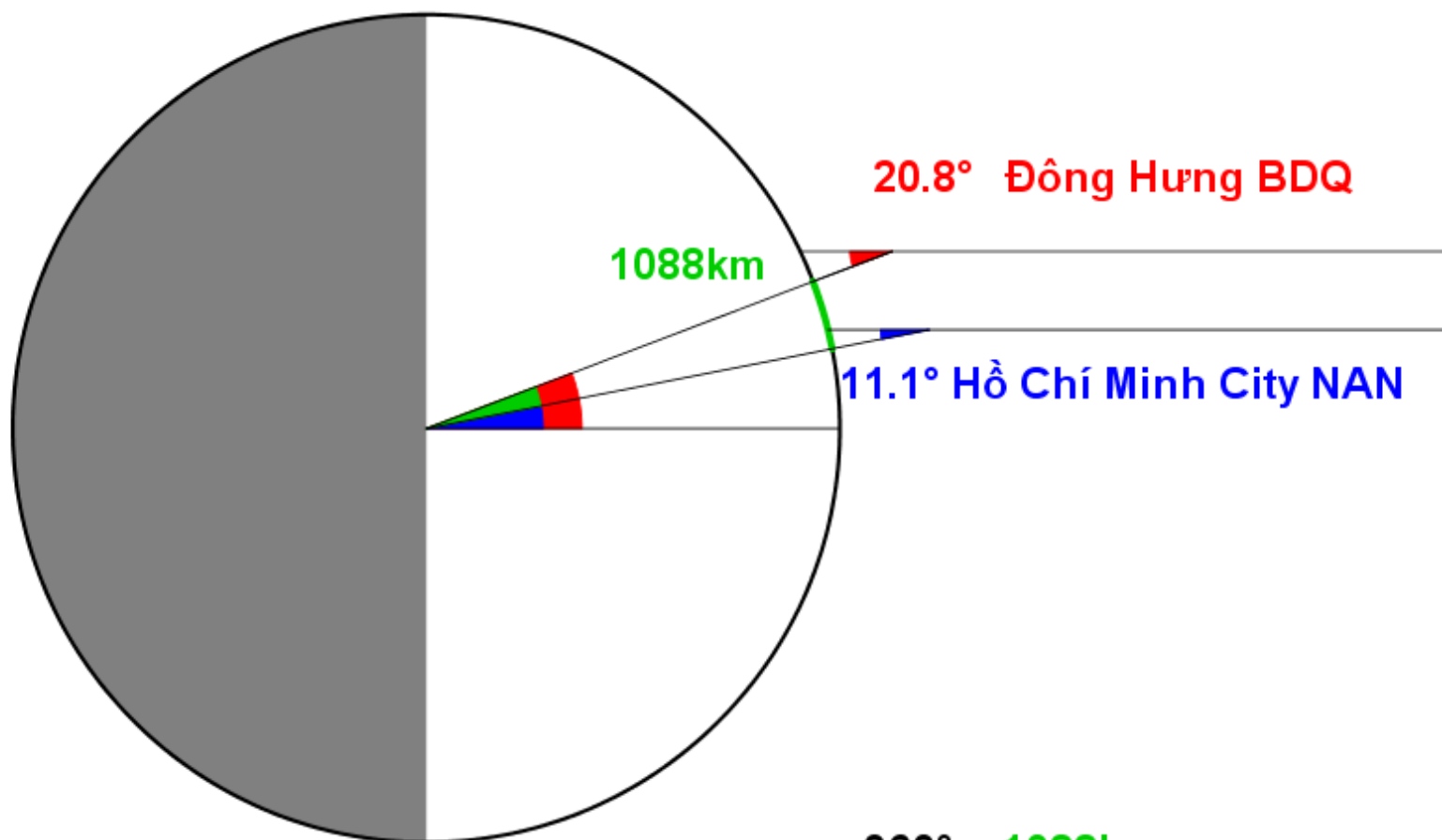


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Đông Hưng BDQ	Việt Nam	Bac Dong Quan High School	20.557	106.351

Date	Gnomon	Shadow	Angle
21 March 2019	50 cm	19 cm	20.8 °

21/03/2019 (Đông Hưng BDQ-Việt Nam) Latitude: 20.557°

21/03/2019 (Hồ Chí Minh City NAN-Việt Nam) Latitude: 10.762°



Distance	Angle
circumference	360°
1088km	20.8° - 11.1°

$$\text{circumference} = \frac{360^\circ \times 1088\text{km}}{20.8^\circ - 11.1^\circ} = 40379 \text{ km}$$



# Đông Hưng CPHQ, Việt Nam

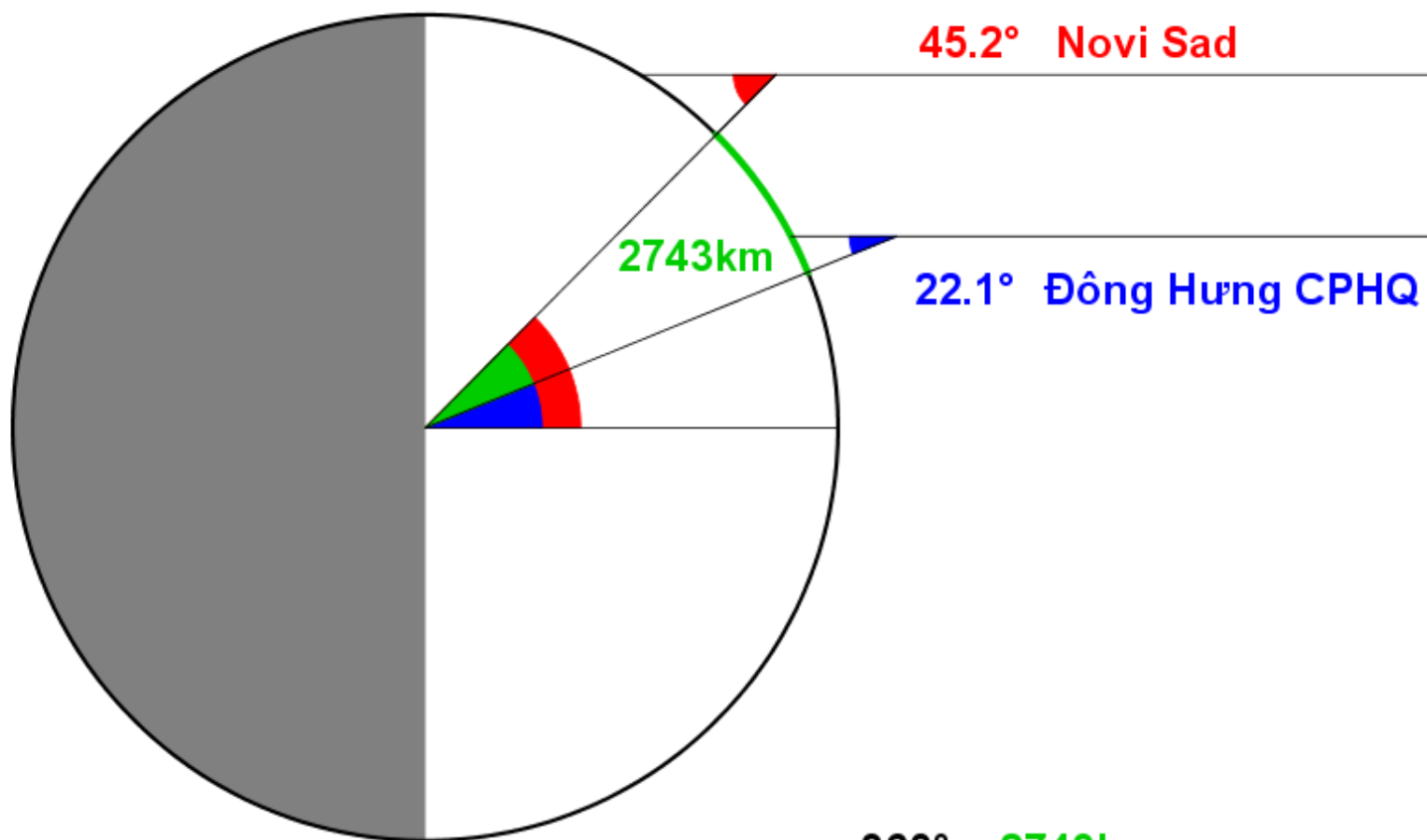


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Đông Hưng CPHQ	Việt Nam	THCS chuyên Phạm Huy Quang	20.560	106.354

Date	Gnomon	Shadow	Angle
21 March 2019	86.1 cm	35 cm	22.1 °

21/03/2019 (Novi Sad-Serbia) Latitude: 45.246°

21/03/2019 (Đông Hưng CPHQ-Việt Nam) Latitude: 20.56°



45.2° Novi Sad

22.1° Đông Hưng CPHQ

2743km

Distance	Angle
circumference	360°
2743km	45.2° - 22.1°

$$\text{circumference} = \frac{360^\circ \times 2743\text{km}}{45.2^\circ - 22.1^\circ} = 42748 \text{ km}$$



# Guarne, Colombia

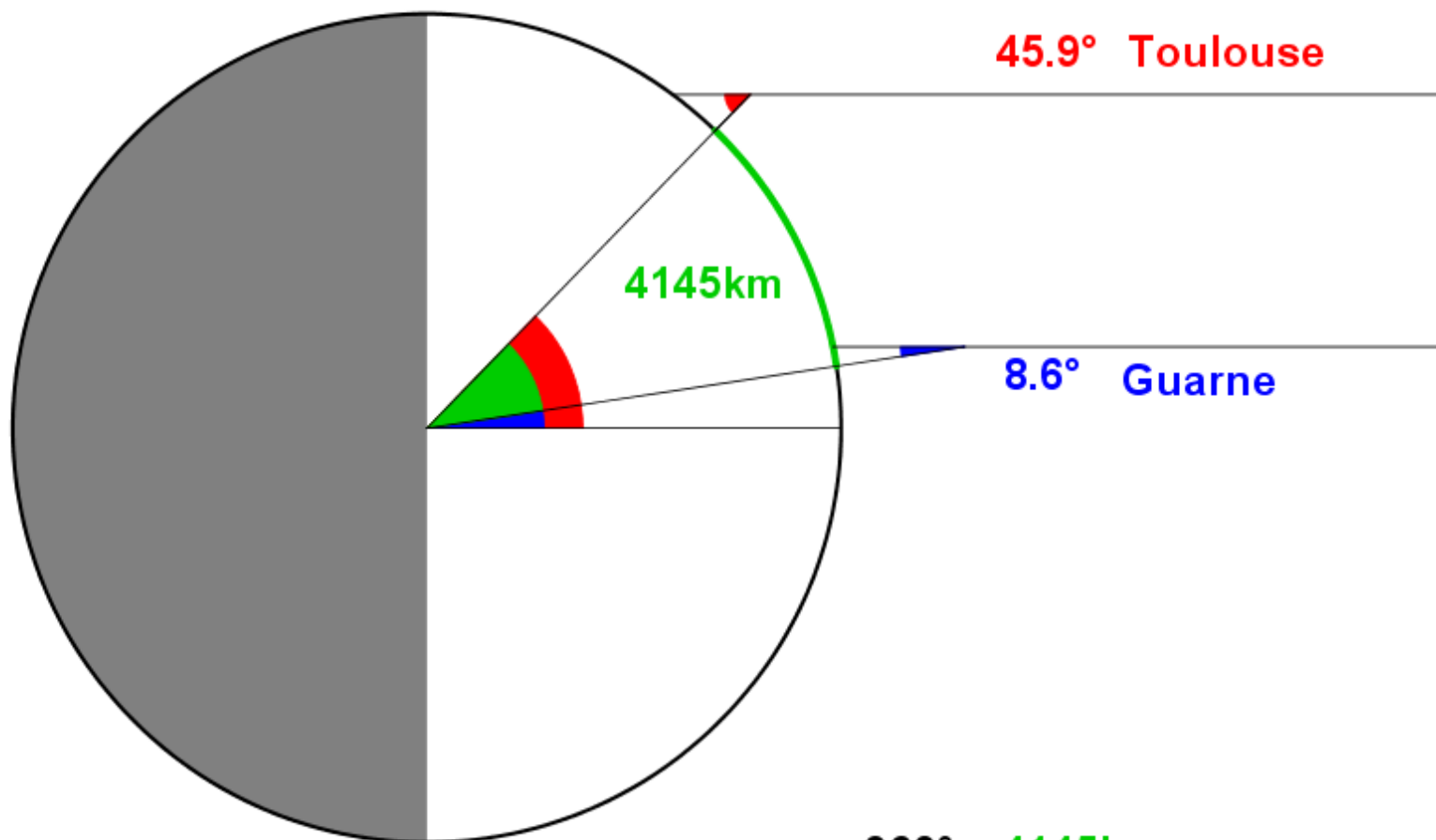


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Guarne	Colombia	Grupo Astrofánaticos	6.274	-75.447

Date	Gnomon	Shadow	Angle
06 March 2019	94.5 cm	19.3 cm	11.5 °
11 March 2019	94.5 cm	16.1 cm	45 °
14 March 2019	94.8 cm	14.4 cm	8.6 °
19 March 2019	94.7 cm	10.8 cm	6.5 °
20 March 2019	94.7 cm	10.6 cm	6.4 °

14/03/2019 (Toulouse-France) Latitude: 43.587°

14/03/2019 (Guarne-Colombia) Latitude: 6.274°



Distance	Angle
circumference	360°
4145km	45.9° - 8.6°


$$\text{circumference} = \frac{360^\circ \times 4145\text{km}}{45.9^\circ - 8.6^\circ} = 40005 \text{ km}$$





# Hà Đông, Việt Nam

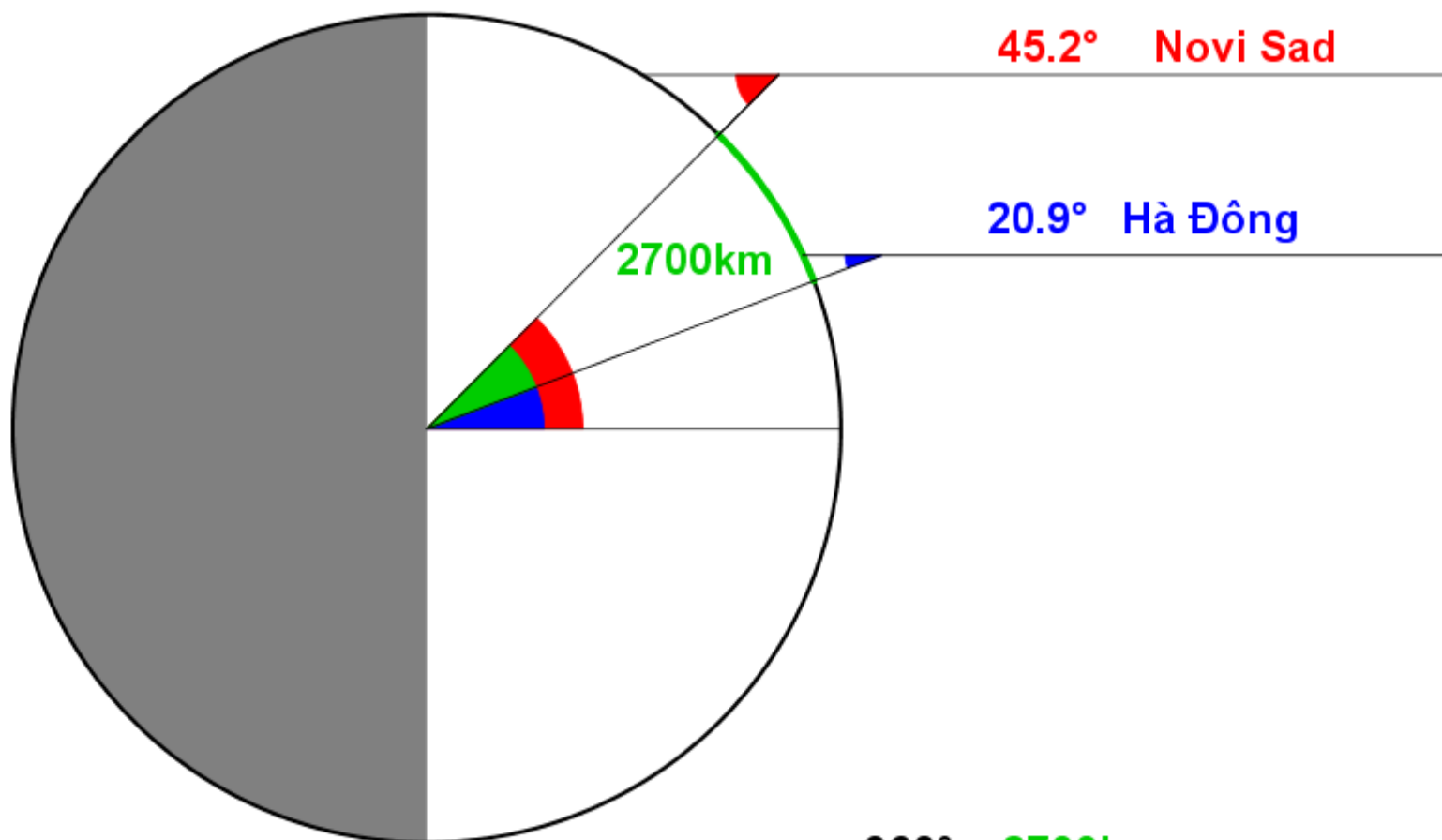


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Hà Đông	Việt Nam	Trần Hưng Đạo Hà Đông High school	20.943	105.758

Date	Gnomon	Shadow	Angle
21 March 2019	97.1 cm	37.1 cm	20.9 °

21/03/2019 (Novi Sad-Serbia) Latitude: 45.246°

21/03/2019 (Hà Đông-Việt Nam) Latitude: 20.943°



Distance	Angle
circumference	360°
2700km	45.2° - 20.9°

$$\text{circumference} = \frac{360^\circ \times 2700\text{km}}{45.2^\circ - 20.9^\circ} = 40000 \text{ km}$$



# Hà Nội BVD, Việt Nam

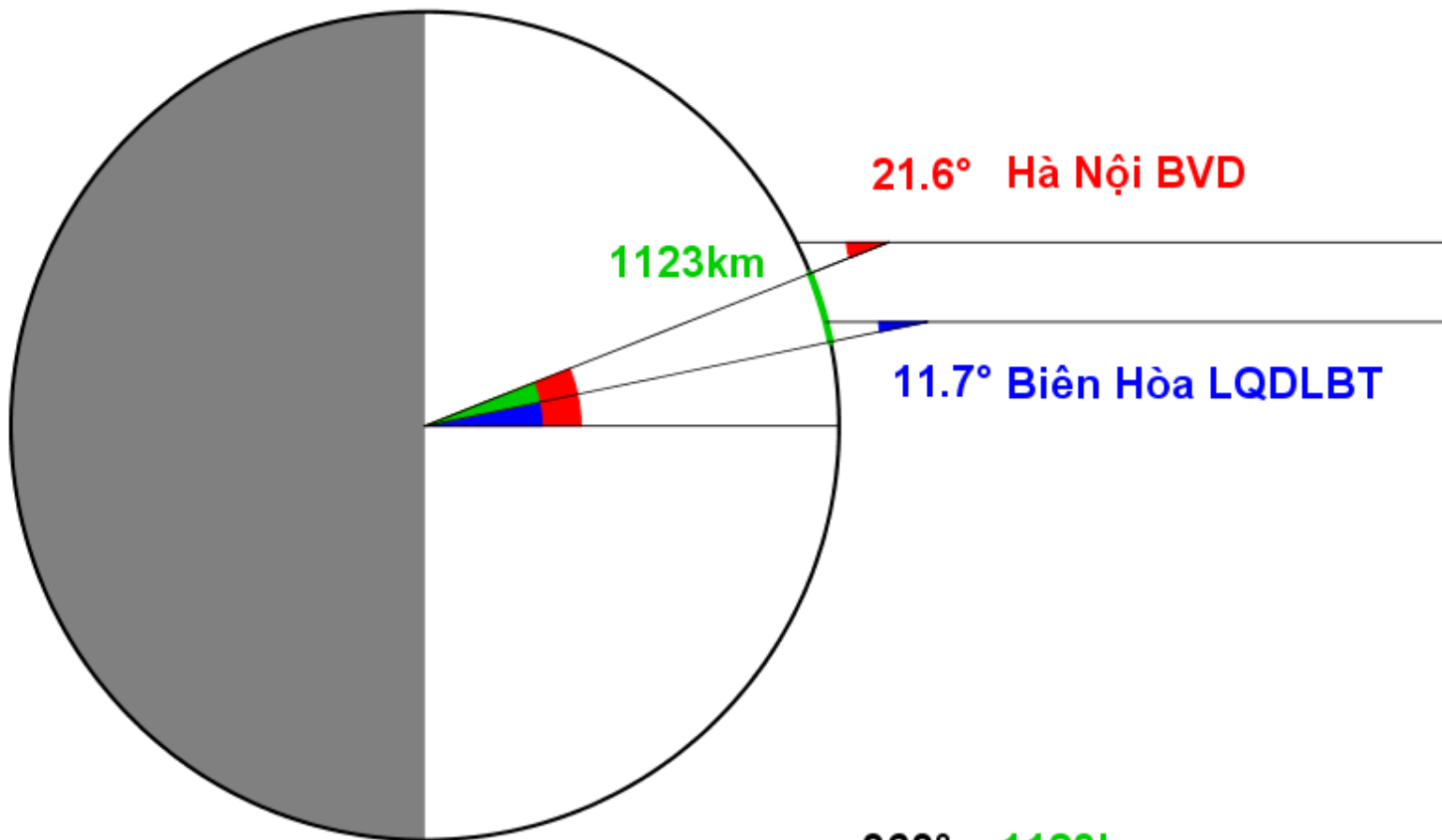


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Hà Nội BVD	Việt Nam	THCS Bế Văn Đàn	21.014	105.829

Date	Gnomon	Shadow	Angle
21 March 2019	69.5 cm	27.5 cm	21.6 °

21/03/2019 (Hà Nội BVD-Việt Nam) Latitude: 21.014°

21/03/2019 (Biên Hòa LQDLBT-Việt Nam) Latitude: 10.909°



Distance	Angle
circumference	360°
1123km	21.6° - 11.7°

$$\text{circumference} = \frac{360^\circ \times 1123\text{km}}{21.6^\circ - 11.7^\circ} = 40836 \text{ km}$$



# Hà Nội Star, Việt Nam

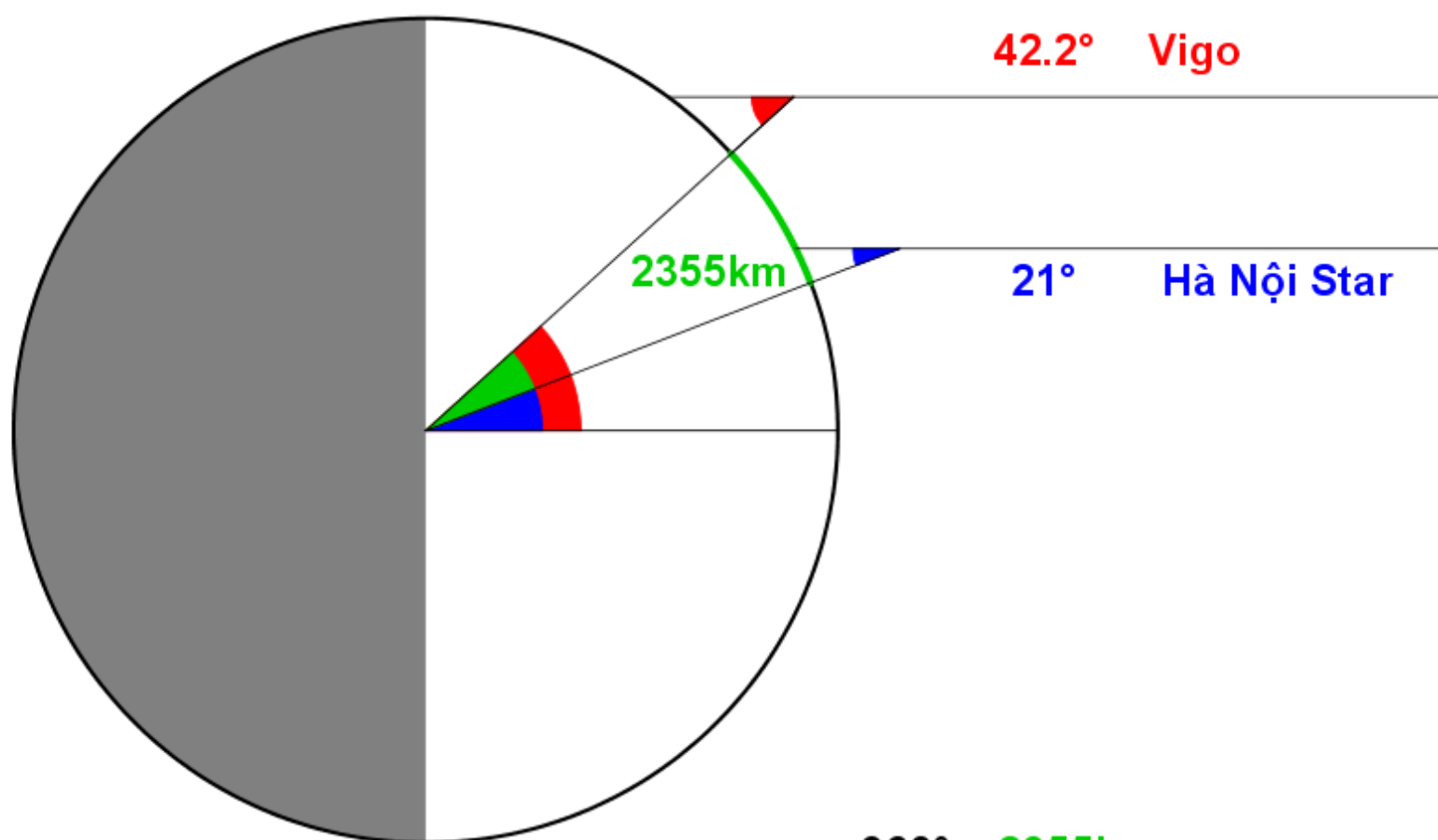


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Hà Nội Star	Việt Nam	Ngoi sao Ha Noi Secondary School	21.005	105.802

Date	Gnomon	Shadow	Angle
21 March 2019	60.0 cm	23.0 cm	21.0 °

21/03/2019 (Vigo-Spain) Latitude: 42.201°

21/03/2019 (Hà Nội Star-Việt Nam) Latitude: 21.005°



Distance	Angle
circumference	360°
2355km	42.2° - 21°

$$\text{circumference} = \frac{360^\circ \times 2355\text{km}}{42.2^\circ - 21^\circ} = 39991 \text{ km}$$



# Hải Phòng LQD, Việt Nam

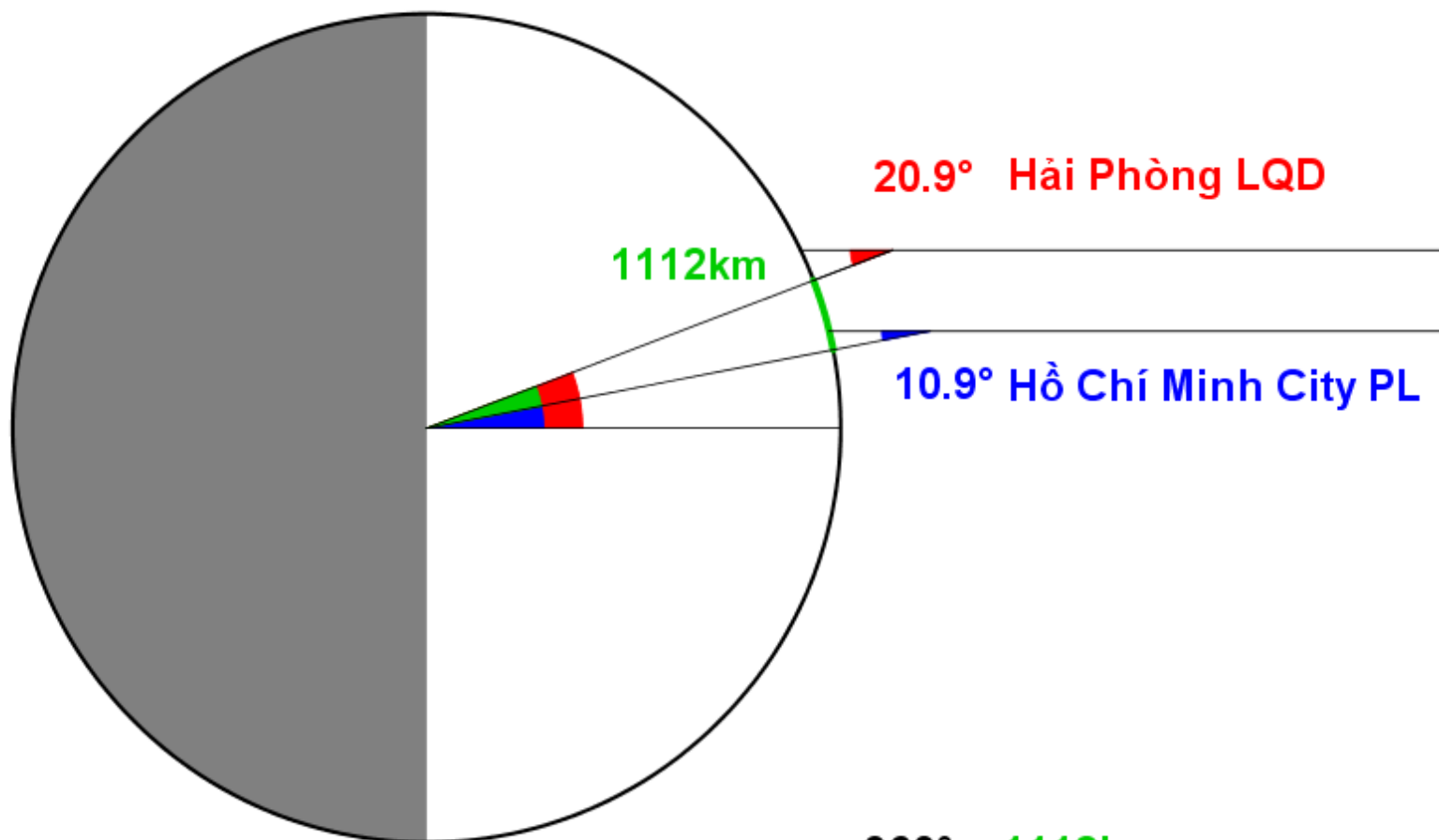


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Hải Phòng LQD	Việt Nam	Lê Quý Đôn High School	20.827	106.707

Date	Gnomon	Shadow	Angle
21 March 2019	93.5 cm	35.7 cm	20.9 °

21/03/2019 (Hải Phòng LQD-Việt Nam) Latitude: 20.827°

21/03/2019 (Hồ Chí Minh City PL-Việt Nam) Latitude: 10.817°



Distance	Angle
circumference	360°
1112km	20.9° - 10.9°

$$\text{circumference} = \frac{360^\circ \times 1112\text{km}}{20.9^\circ - 10.9^\circ} = 40032 \text{ km}$$





# Hải Phòng TP, Việt Nam

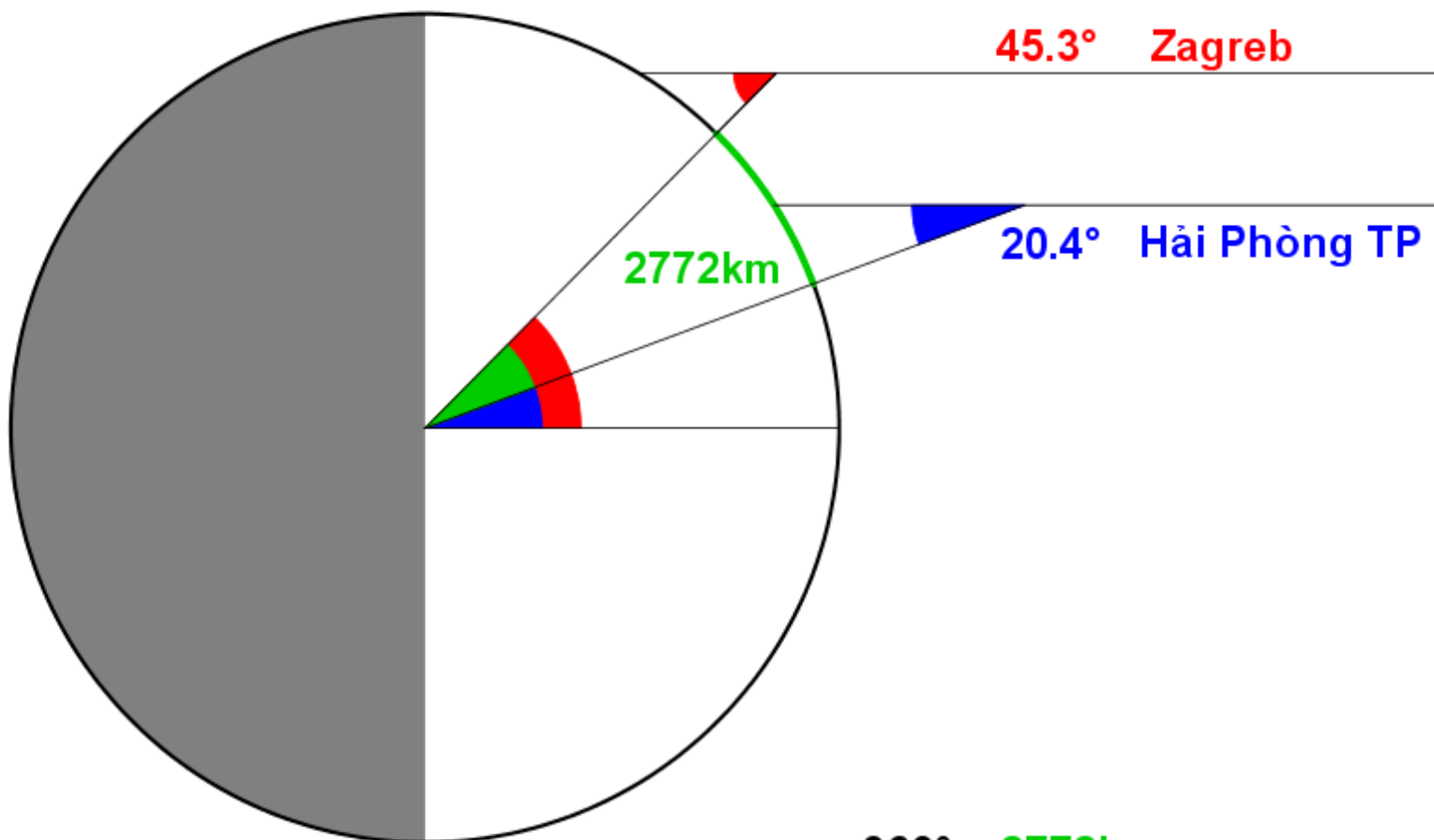


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Hải Phòng TP	Việt Nam	Thai Phien High School	20.861	106.706

Date	Gnomon	Shadow	Angle
21 March 2019	52.9 cm	19.7 cm	20.4 °

21/03/2019 (Zagreb-Croatia) Latitude: 45.812°

21/03/2019 (Hải Phòng TP-Việt Nam) Latitude: 20.861°



Distance	Angle
circumference	360°
2772km	45.3° - 20.4°

$$\text{circumference} = \frac{360^\circ \times 2772\text{km}}{45.3^\circ - 20.4^\circ} = 40077 \text{ km}$$



# Hồ Chí Minh City NAN, Việt Nam

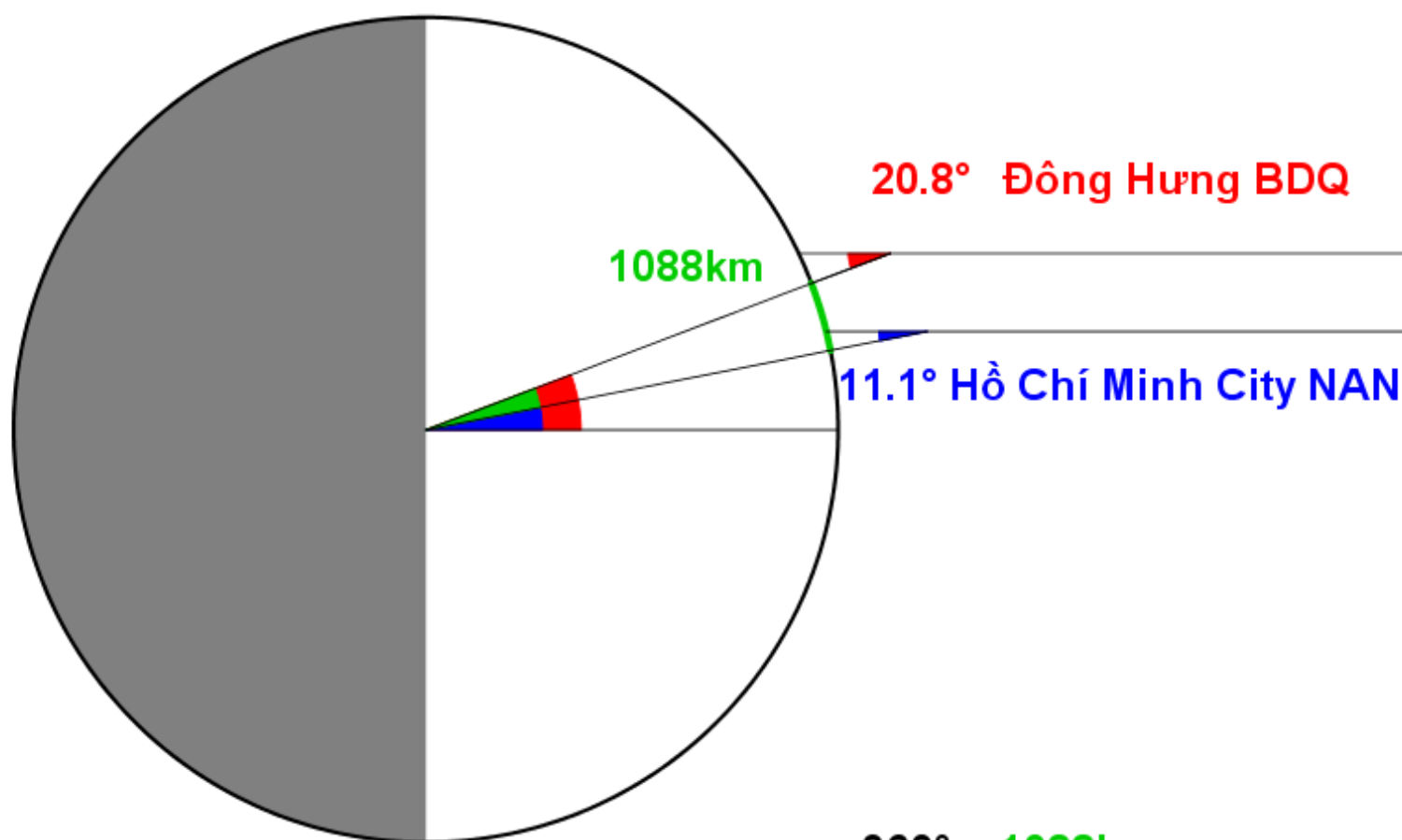


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Hồ Chí Minh City NAN	Việt Nam	Nguyen An Ninh High School	10.762	106.674

Date	Gnomon	Shadow	Angle
21 March 2019	51 cm	10.1 cm	11.1 °

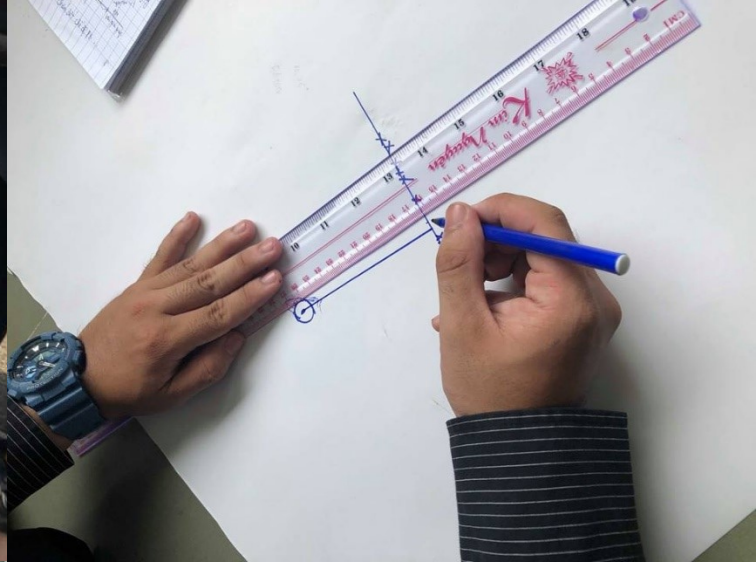
21/03/2019 (Đông Hưng BDQ-Việt Nam) Latitude: 20.557°

21/03/2019 (Hồ Chí Minh City NAN-Việt Nam) Latitude: 10.762°



Distance	Angle
circumference	360°
1088km	20.8° - 11.1°

$$\text{circumference} = \frac{360^\circ \times 1088\text{km}}{20.8^\circ - 11.1^\circ} = 40379 \text{ km}$$



# Hồ Chí Minh City NT, Việt Nam

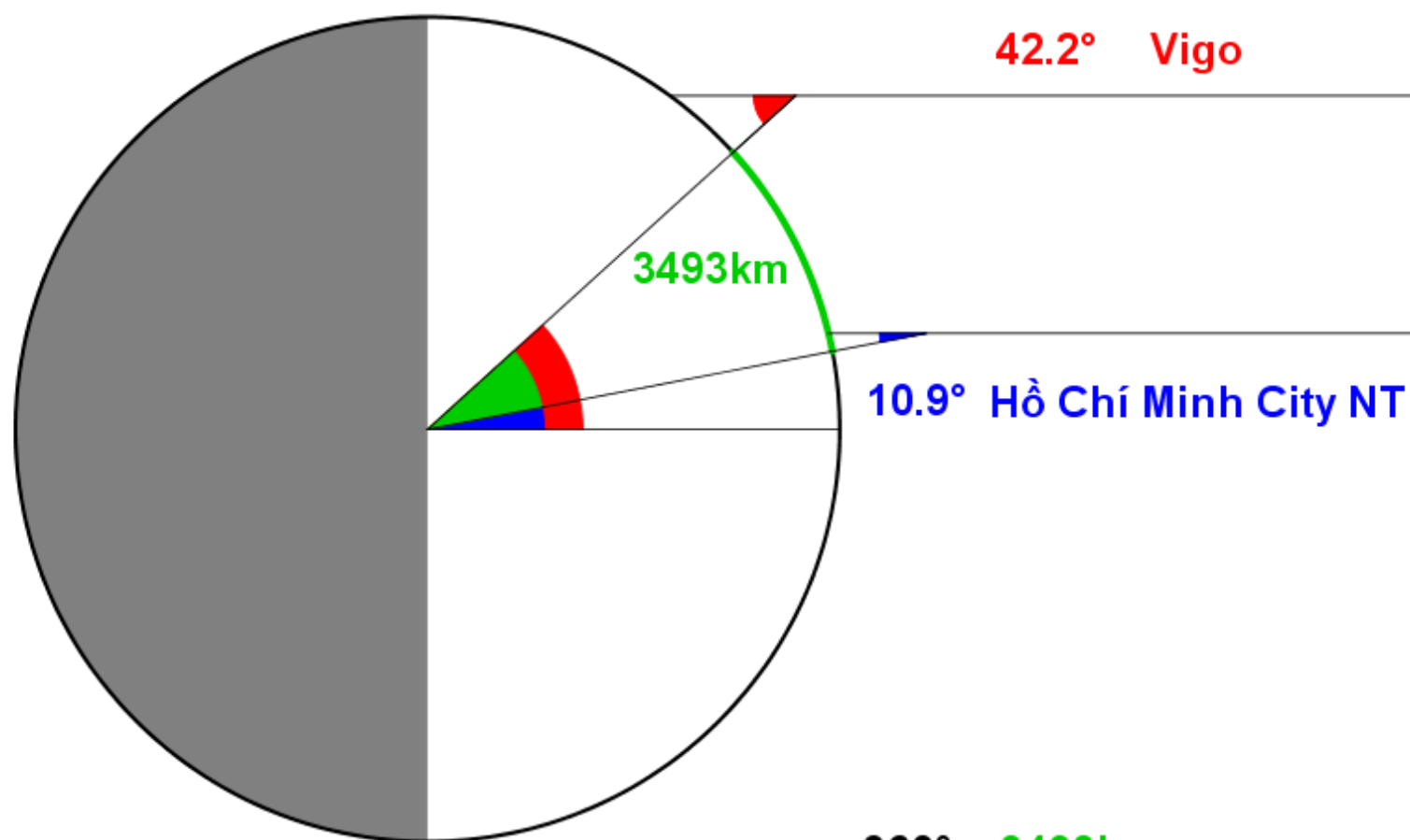


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Hồ Chí Minh City NT	Việt Nam	Nguyen Trai High School	10.760	106.712

Date	Gnomon	Shadow	Angle
21 March 2019	83.8 cm	16.2 cm	10.9 °

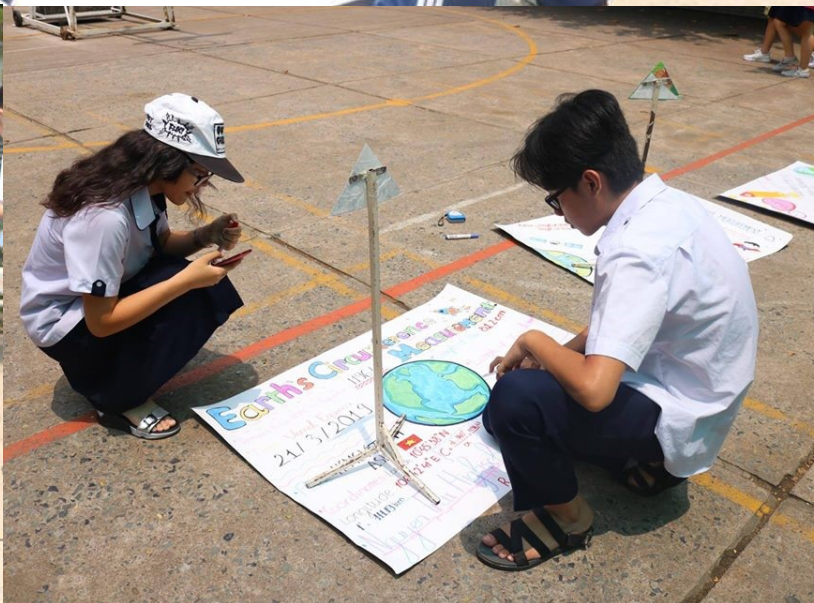
21/03/2019 (Vigo-Spain) Latitude: 42.201°

21/03/2019 (Hồ Chí Minh City NT-Việt Nam) Latitude: 10.76°



Distance	Angle
circumference	360°
3493km	42.2° - 10.9°

$$\text{circumference} = \frac{360^\circ \times 3493\text{km}}{42.2^\circ - 10.9^\circ} = 40175 \text{ km}$$



# Hồ Chí Minh City NVL, Việt Nam

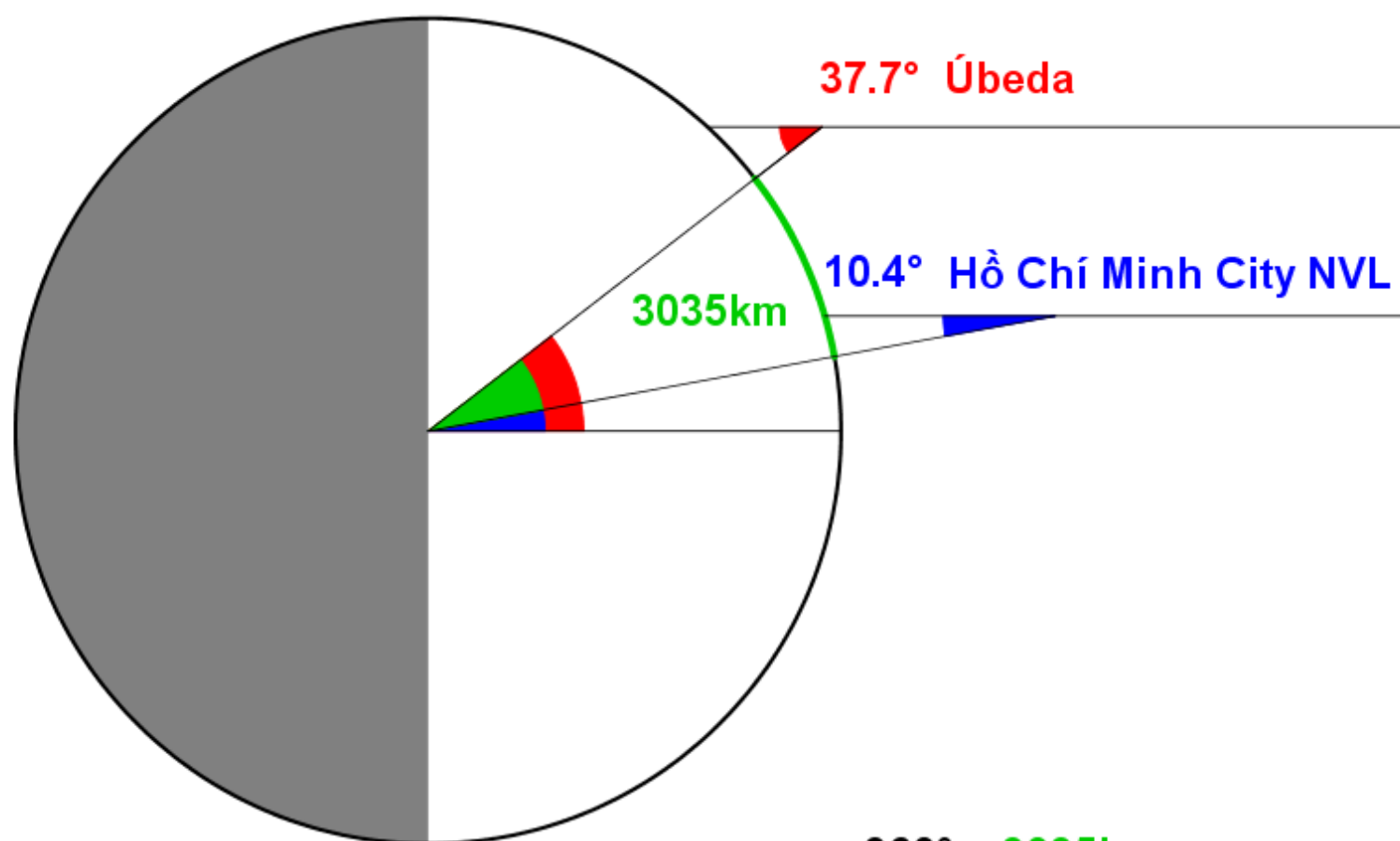


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Hồ Chí Minh City NVL	Việt Nam	THPT Nguyễn Văn Linh	10.702	106.621

Date	Gnomon	Shadow	Angle
21 March 2019	50 cm	9.2 cm	10.4 °

21/03/2019 (Úbeda-Spain) Latitude: 38.017°

21/03/2019 (Hồ Chí Minh City NVL-Việt Nam) Latitude: 10.702°



Distance	Angle
circumference	360°
3035km	37.7° - 10.4°

$$\text{circumference} = \frac{360^\circ \times 3035\text{km}}{37.7^\circ - 10.4^\circ} = 40022 \text{ km}$$





# Hồ Chí Minh City PL, Việt Nam

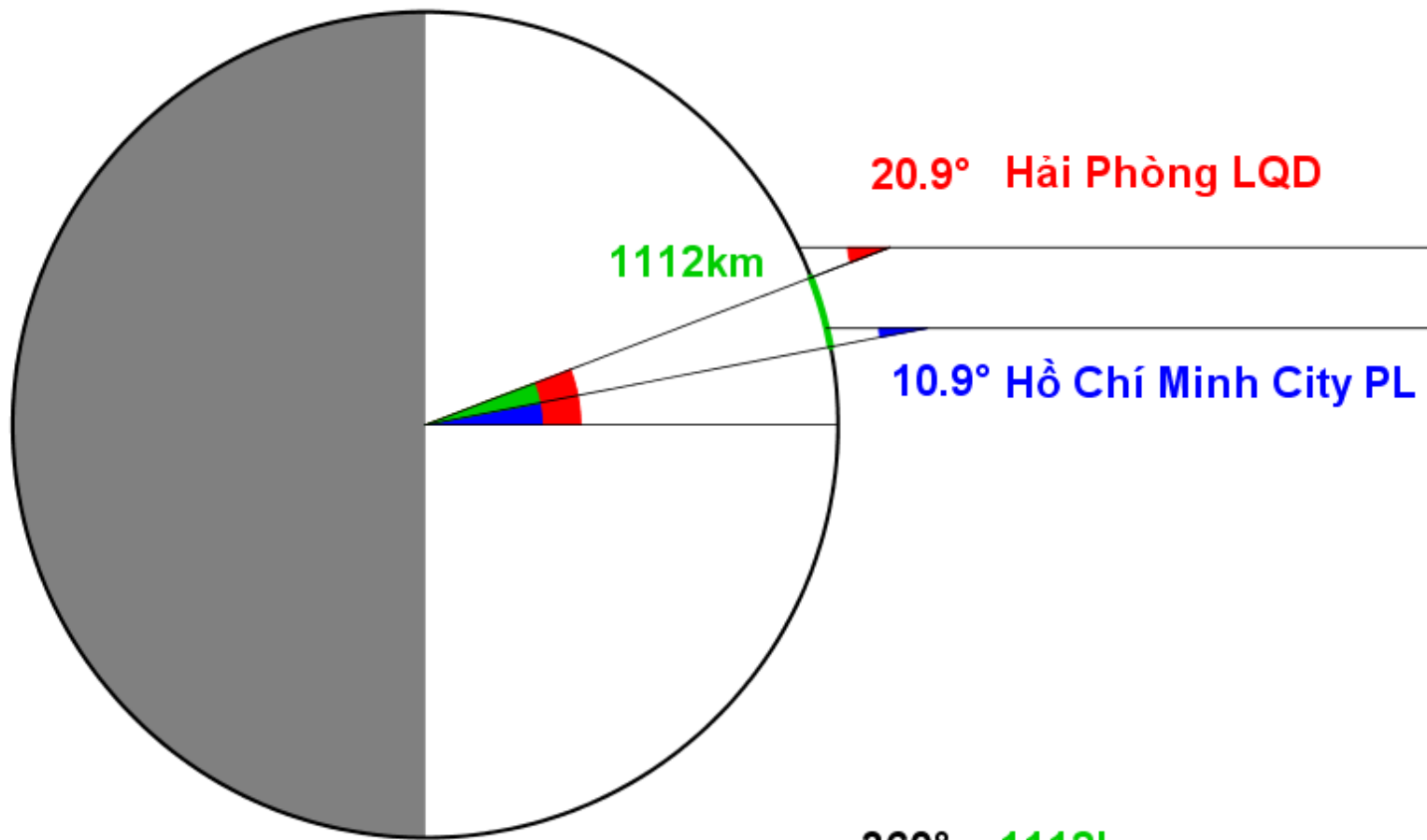


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Hồ Chí Minh City PL	Việt Nam	Phuoc Long High School	10.817	106.775

Date	Gnomon	Shadow	Angle
21 March 2019	56 cm	10.8 cm	10.9 °

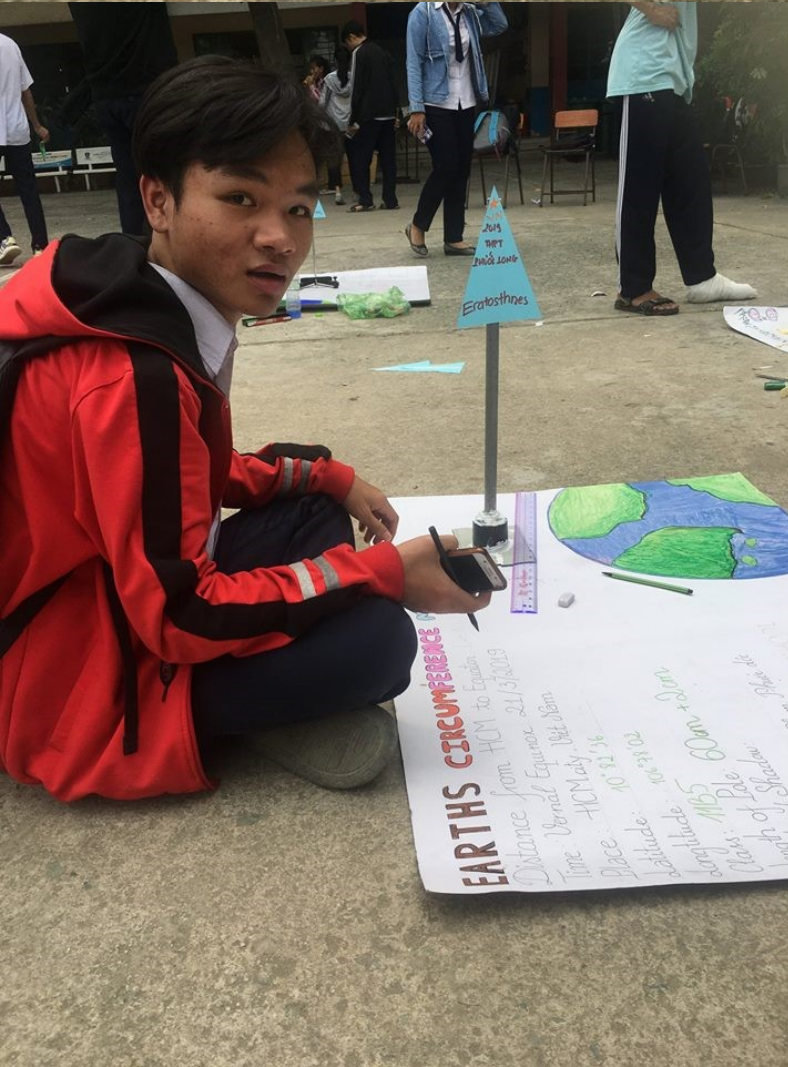
21/03/2019 (Hải Phòng LQD-Việt Nam) Latitude: 20.827°

21/03/2019 (Hồ Chí Minh City PL-Việt Nam) Latitude: 10.817°




Distance	Angle
circumference	360°
1112km	20.9° - 10.9°

$$\text{circumference} = \frac{360^\circ \times 1112\text{km}}{20.9^\circ - 10.9^\circ} = 40032 \text{ km}$$



# Hoài Đức, Việt Nam

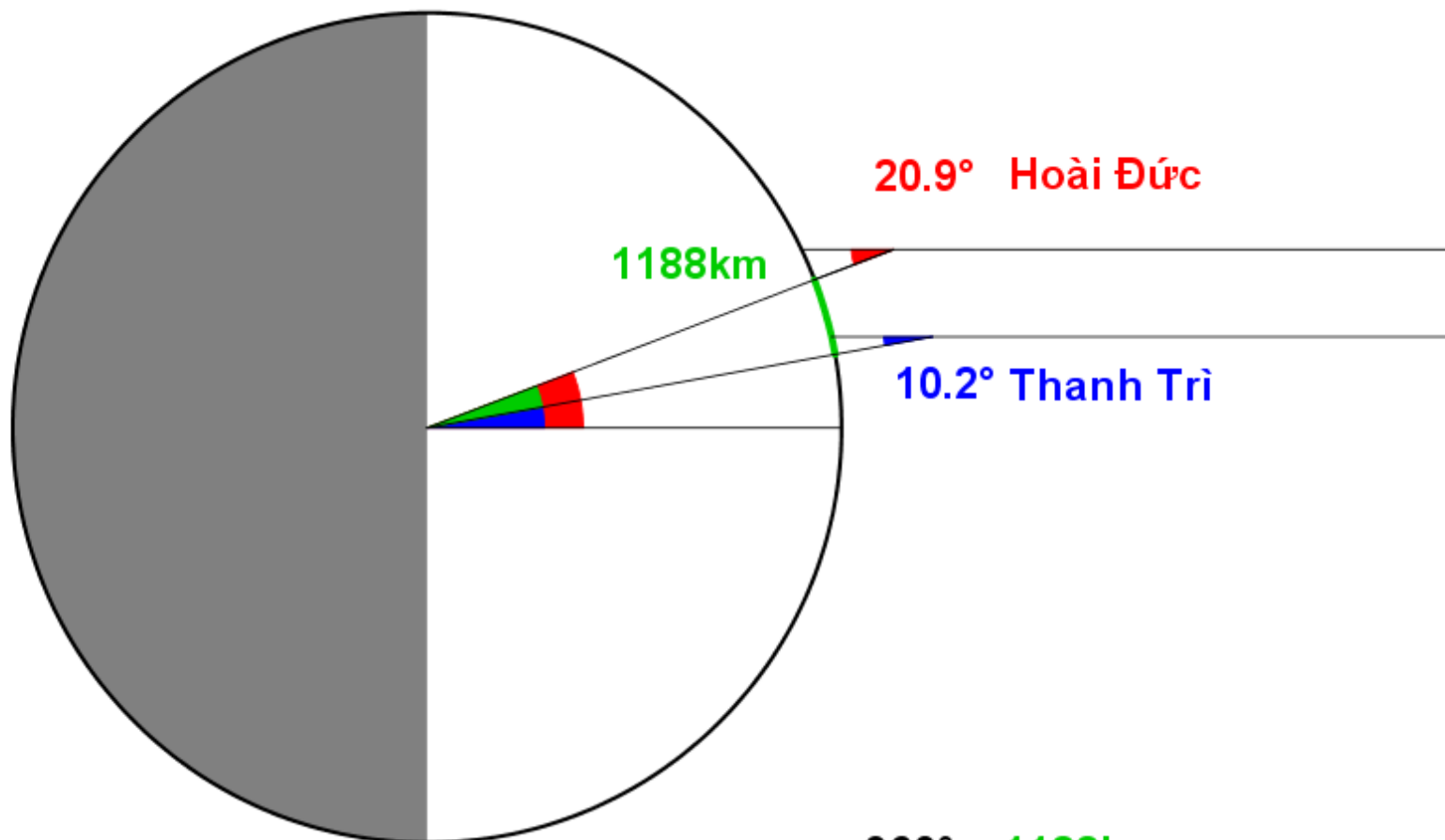


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Hoài Đức	Việt Nam	Van Xuân High school	21.046	105.678

Date	Gnomon	Shadow	Angle
21 March 2019	50.5 cm	19.3 cm	20.9 °

21/03/2019 (Hoài Đức-Việt Nam) Latitude: 21.046°

21/03/2019 (Thanh Trì-Việt Nam) Latitude: 10.357°



$$\text{circumference} = \frac{360^\circ \times 1188\text{km}}{20.9^\circ - 10.2^\circ} = 39970 \text{ km}$$

Distance	Angle
circumference	360°
1188km	20.9° - 10.2°



# Hoàng Giang, Việt Nam

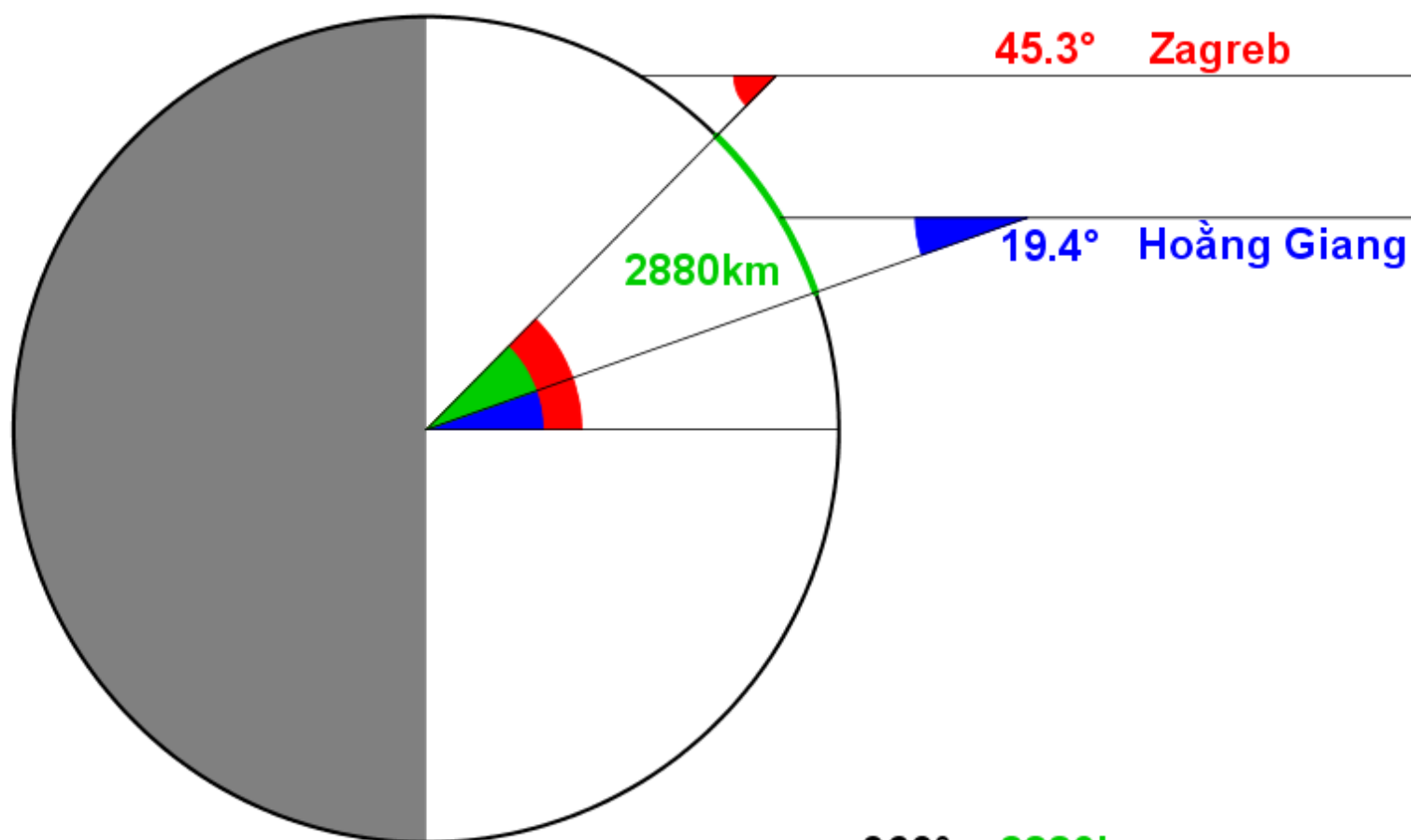


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Hoàng Giang	Việt Nam	Hoang Giang Secondary School	19.886	105.769

Date	Gnomon	Shadow	Angle
21 March 2019	58 cm	20.4 cm	19.4 °

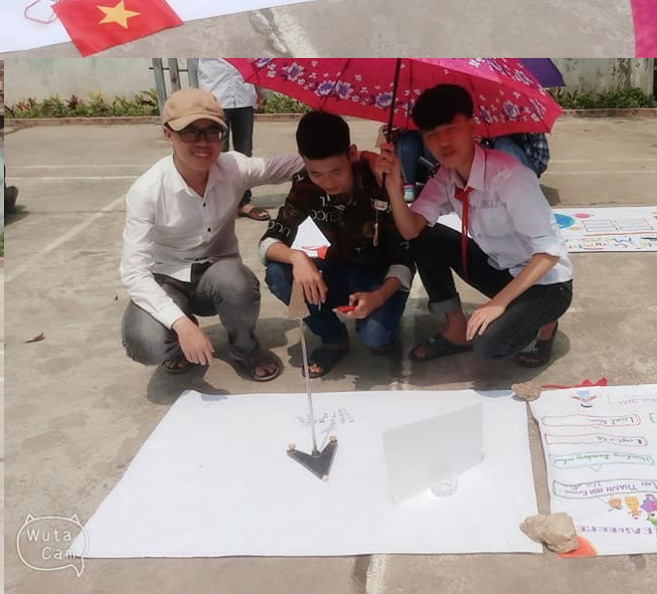
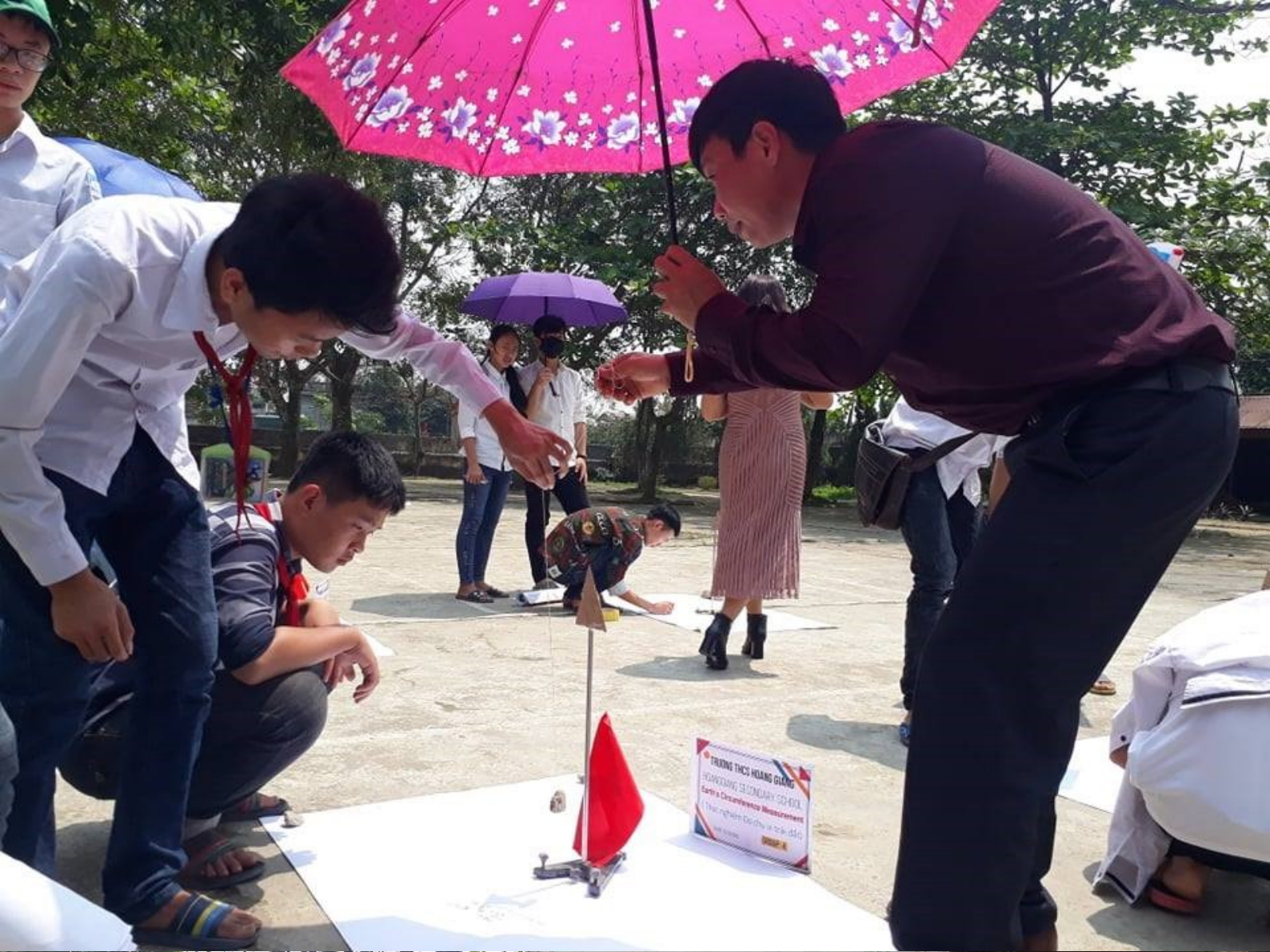
21/03/2019 (Zagreb-Croatia) Latitude: 45.812°

21/03/2019 (Hoàng Giang-Việt Nam) Latitude: 19.886°



Distance	Angle
circumference	360°
2880km	45.3° - 19.4°

$$\text{circumference} = \frac{360^\circ \times 2880\text{km}}{45.3^\circ - 19.4^\circ} = 40031 \text{ km}$$



# Ioannina, Greece

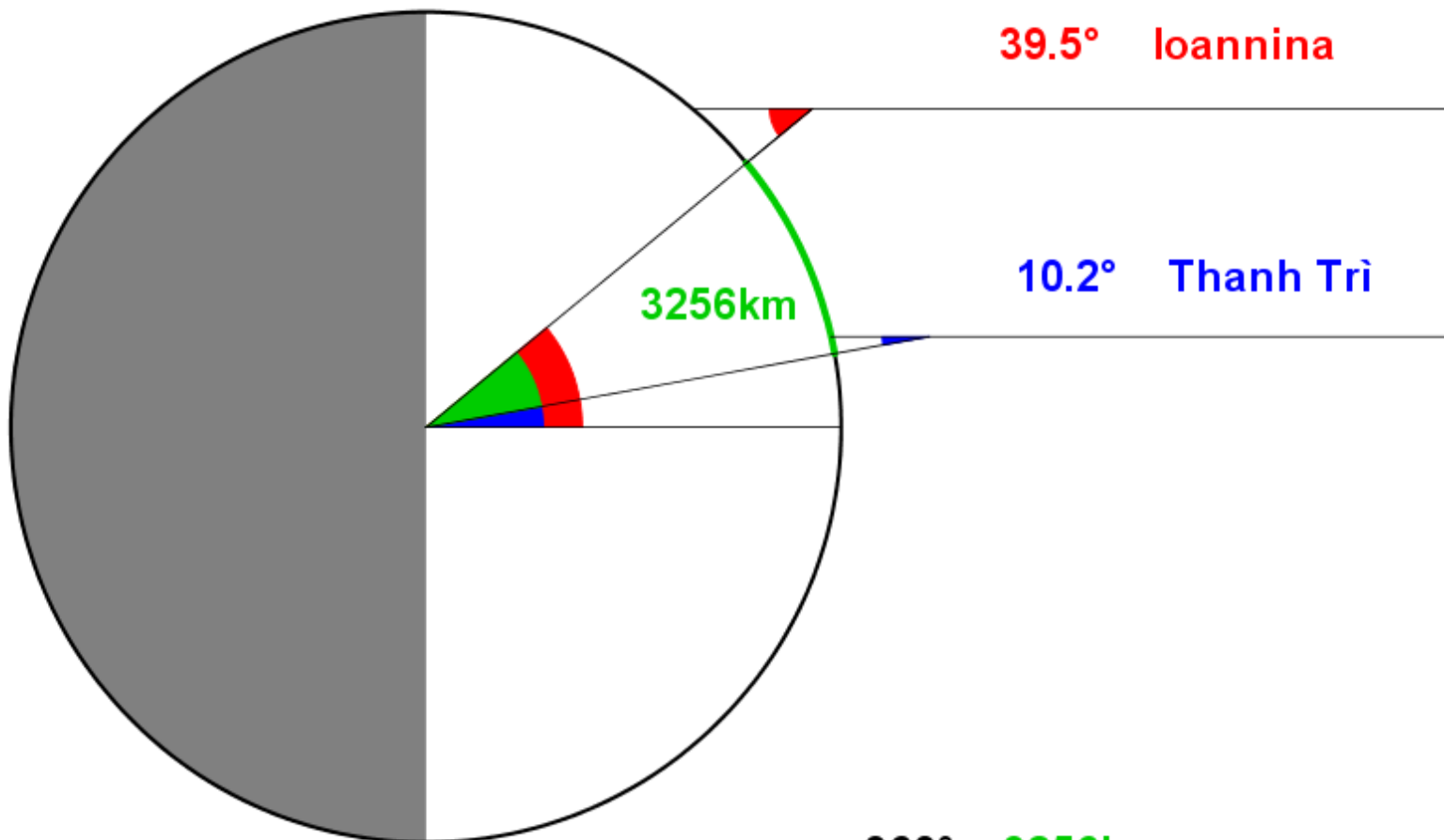


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Ioannina	Greece	Collège Modèle Zossiméas Scholis	39.665	20.846

Date	Gnomon	Shadow	Angle
18 March 2019	100.0 cm	85.5 cm	40.5 °
21 March 2019	100 cm	82.3 cm	39.5 °

21/03/2019 (Ioannina-Greece) Latitude: 39.665°

21/03/2019 (Thanh Trì-Việt Nam) Latitude: 10.357°



$$\text{circumference} = \frac{360^\circ \times 3256\text{km}}{39.5^\circ - 10.2^\circ} = 40005 \text{ km}$$

Distance	Angle
circumference	360°
3256km	39.5° - 10.2°





# Itajubá, Brazil

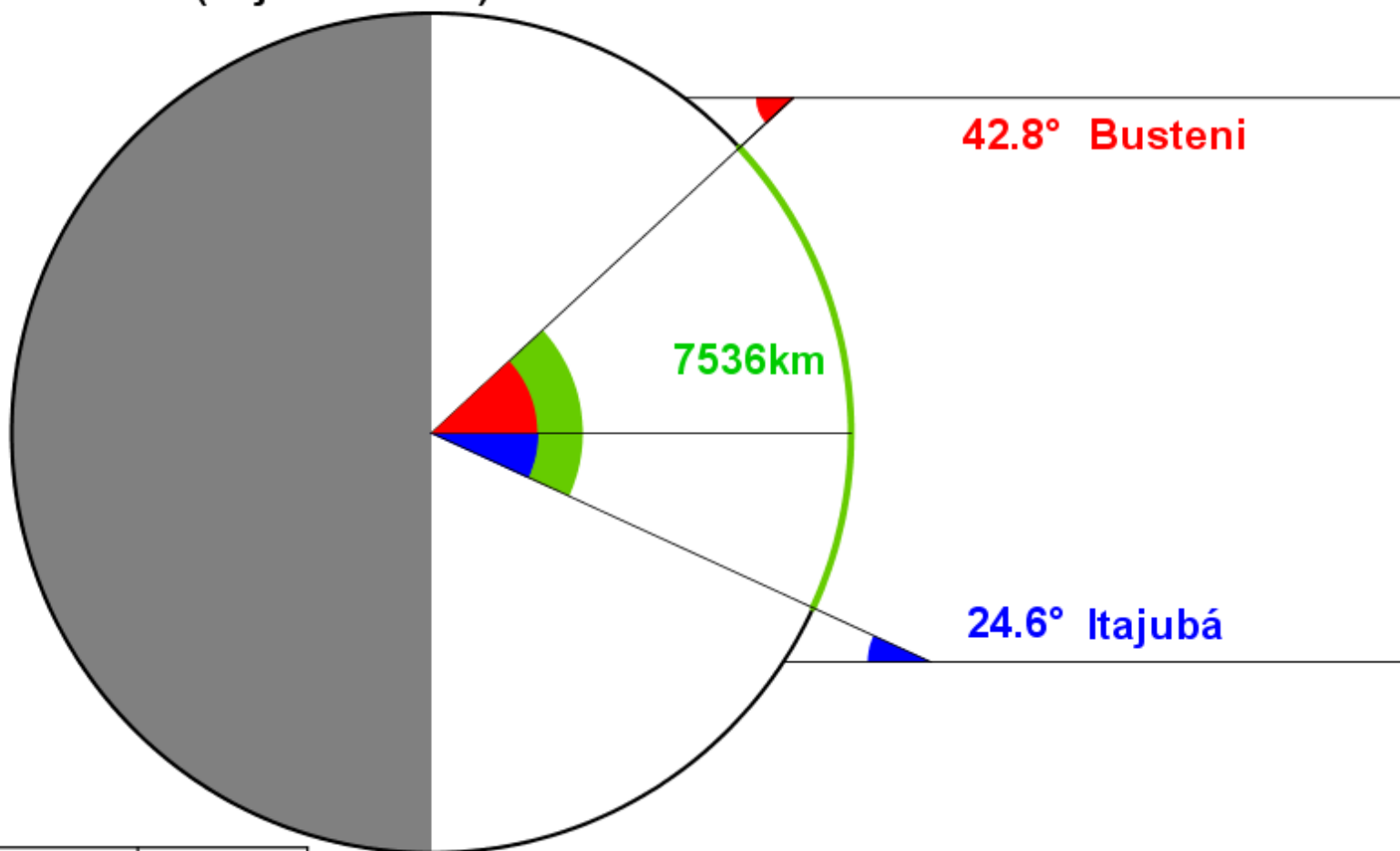


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Itajubá	Brazil	Universidade Federal de Itajubá	-22.145	-45.449

Date	Gnomon	Shadow	Angle
06 March 2019	47.3 cm	-14.5 cm	-17 °
25 March 2019	100 cm	-43.5 cm	-23.5 °
27 March 2019	100 cm	-45.7 cm	-24.6 °

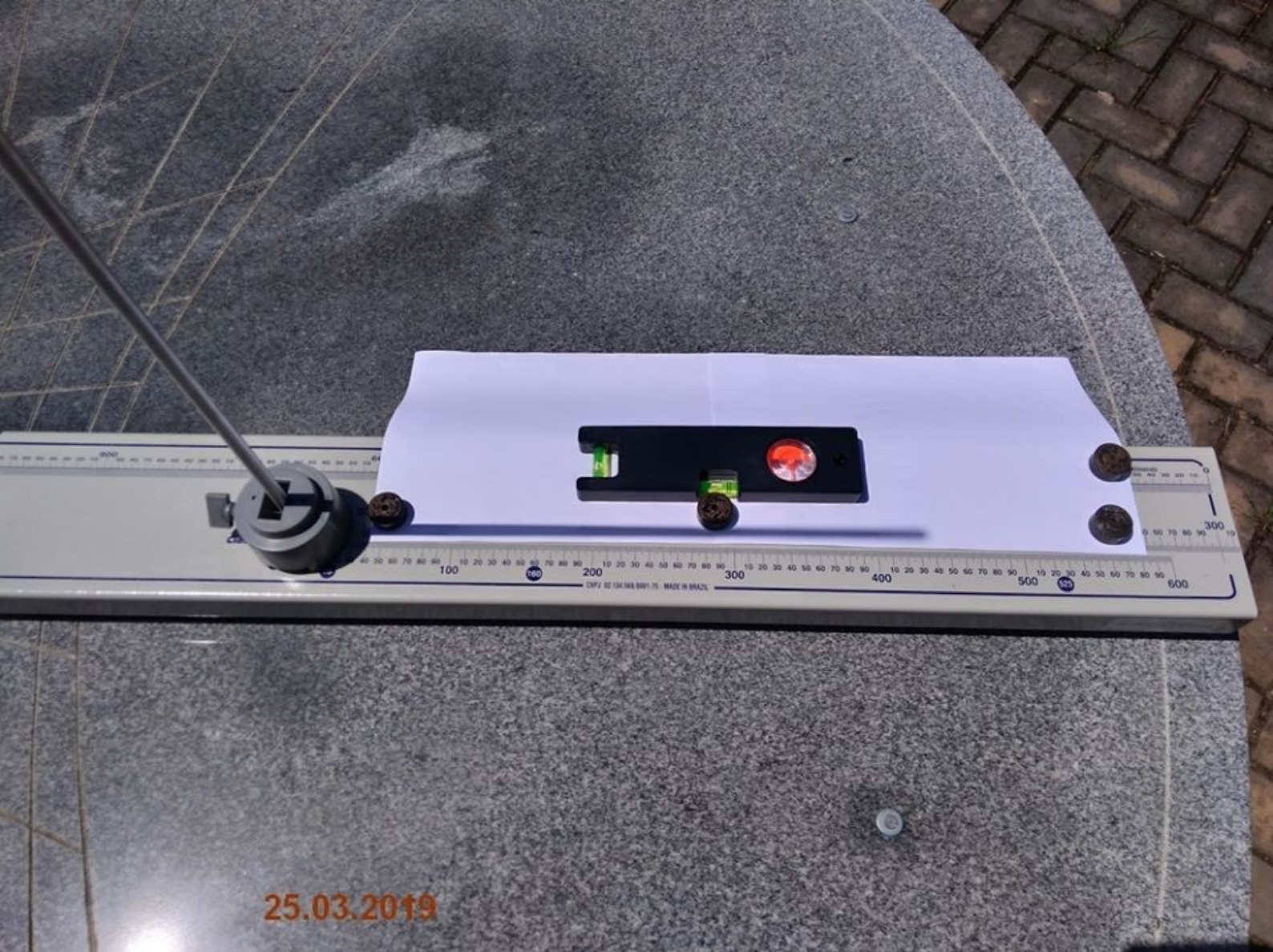
27/03/2019 (Busteni-Romania) Latitude: 45.416°

27/03/2019 (Itajubá-Brazil) Latitude: -22.415°

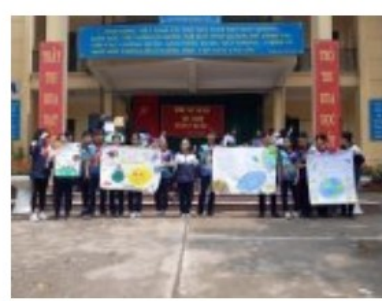


Distance	Angle
circumference	360°
7536km	42.8° + 24.6°

$$\text{circumference} = \frac{360^\circ \times 7536\text{km}}{42.8^\circ + 24.6^\circ} = 40252 \text{ km}$$



# Kim Sơn, Việt Nam

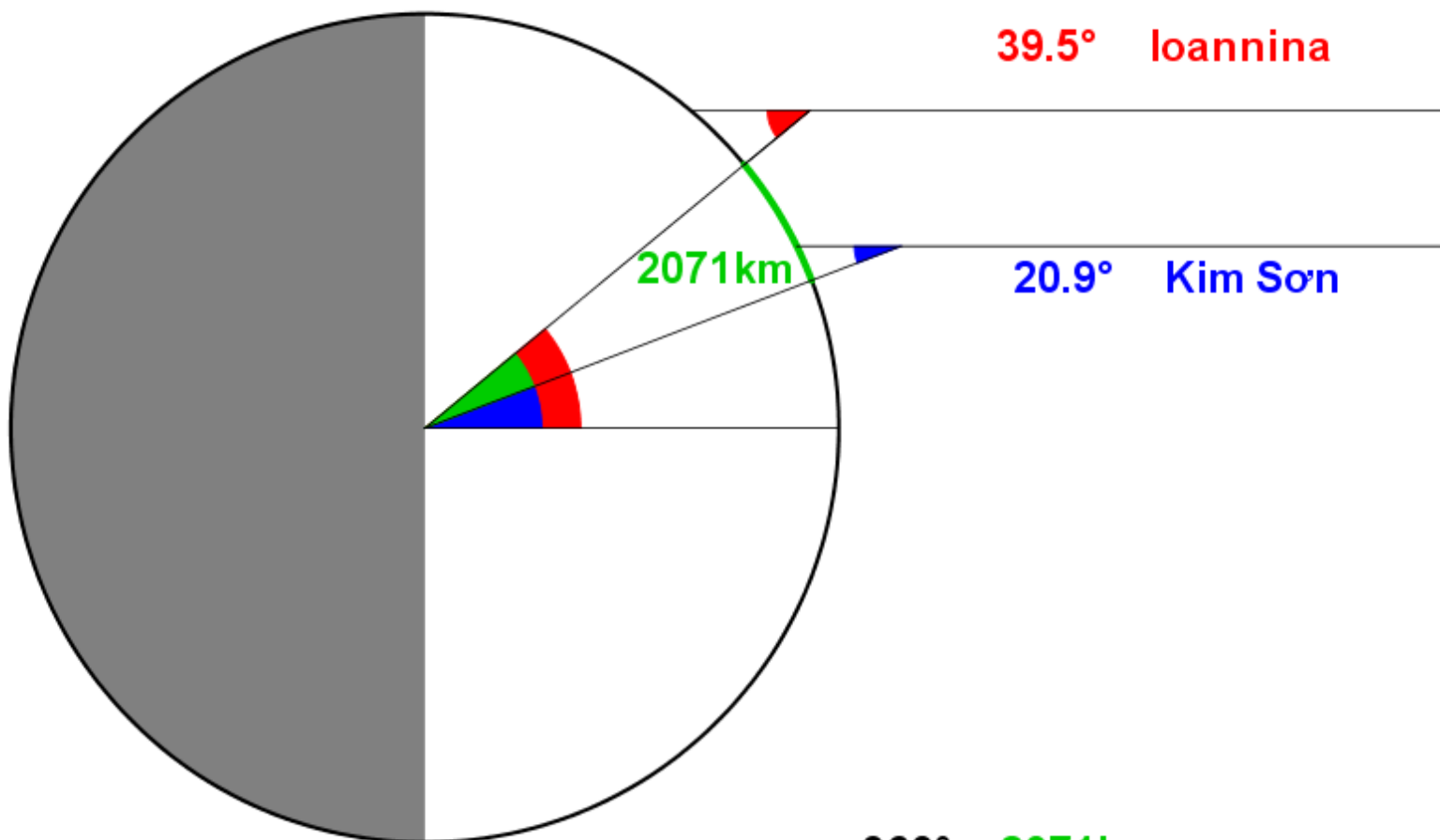


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Kim Sơn	Việt Nam	Kim Sơn Secondary School	21.026	105.987

Date	Gnomon	Shadow	Angle
21 March 2019	74 cm	28.3 cm	20.9 °

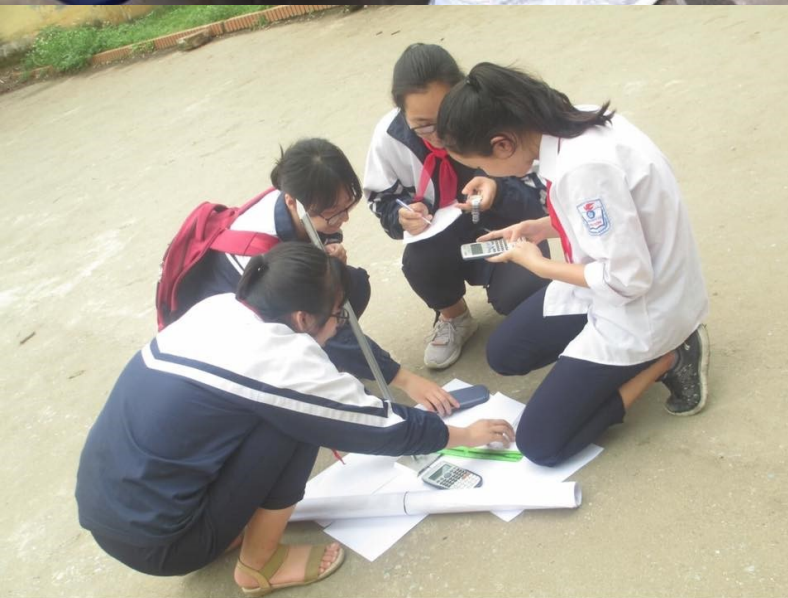
21/03/2019 (Ioannina-Greece) Latitude: 39.665°

21/03/2019 (Kim Sơn-Việt Nam) Latitude: 21.026°



$$\text{circumference} = \frac{360^\circ \times 2071\text{km}}{39.5^\circ - 20.9^\circ} = 40084 \text{ km}$$

Distance	Angle
circumference	360°
2071km	39.5° - 20.9°



# Kuantan, Malaysia

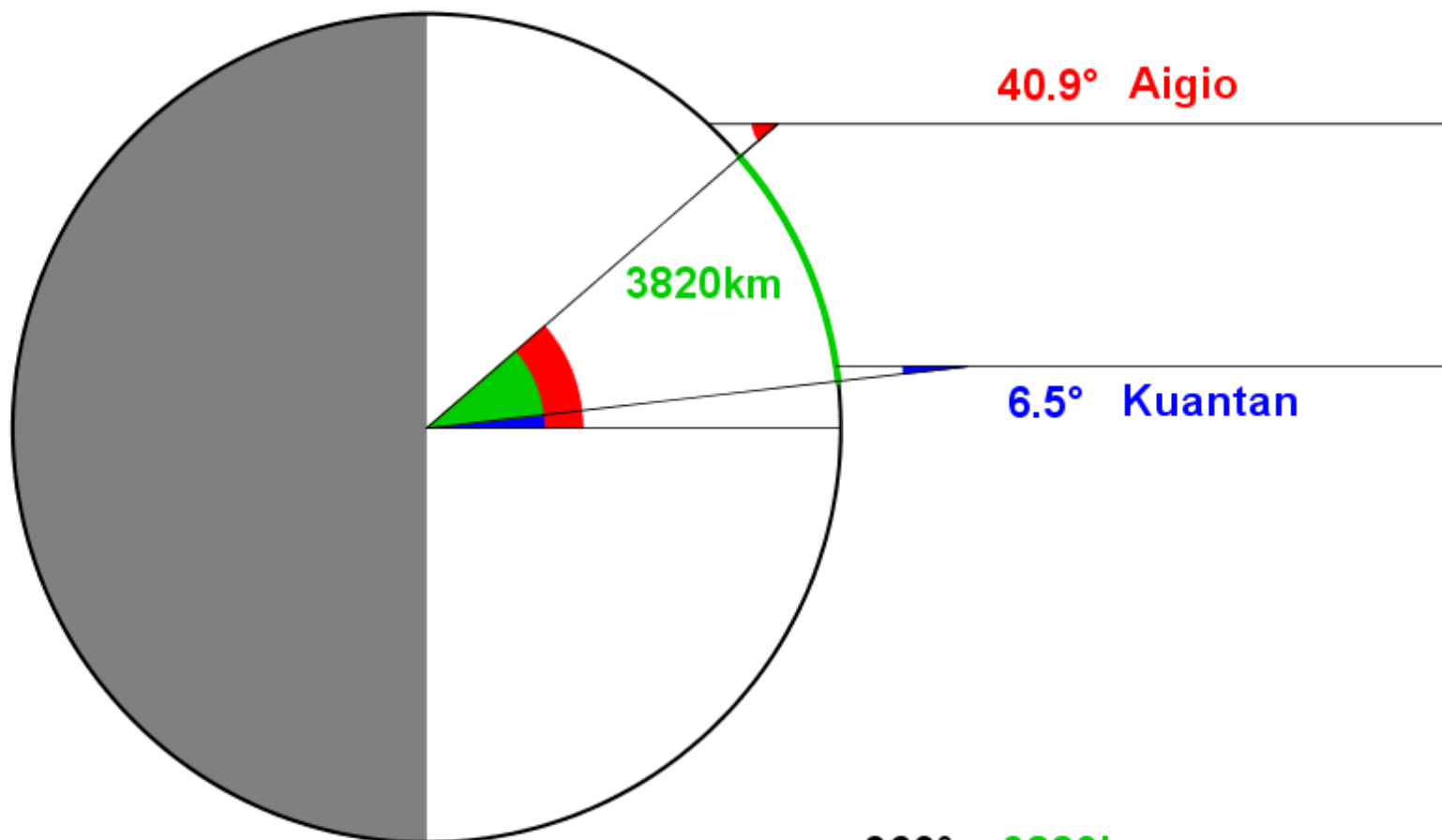


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Kuantan	Malaysia	SMK Semambu	3.870	103.325

Date	Gnomon	Shadow	Angle
14 March 2019	122 cm	14 cm	6.5 °
15 March 2019	122.0 cm	8.3 cm	3.9 °
16 March 2019	122.0 cm	7.0 cm	3.3 °
17 March 2019	46.2 cm	5.4 cm	6.7 °
18 March 2019	122.0 cm	5.3 cm	2.5 °
20 March 2019	122 cm	8.7 cm	4.1 °
22 March 2019	122 cm	3.7 cm	1.7 °

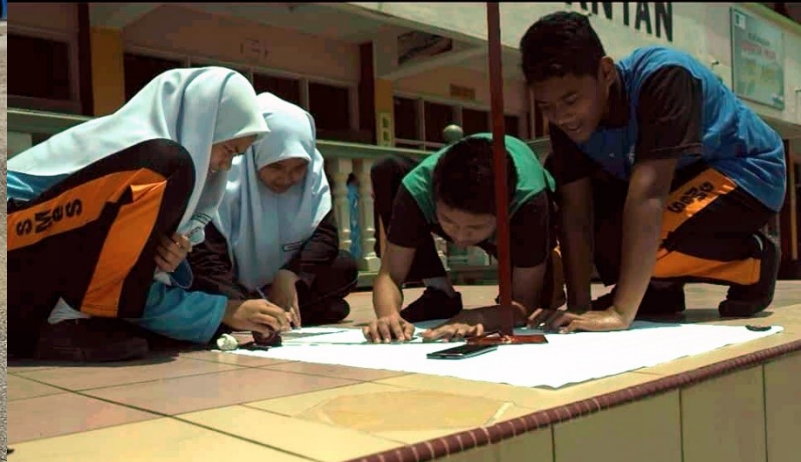
14/03/2019 (Aigio-Greece) Latitude: 38.252°

14/03/2019 (Kuantan-Malaysia) Latitude: 3.87°




$$\text{circumference} = \frac{360^\circ \times 3820\text{km}}{40.9^\circ - 6.5^\circ} = 39977 \text{ km}$$

Distance	Angle
circumference	360°
3820km	40.9° - 6.5°



# Lafrançaise, France

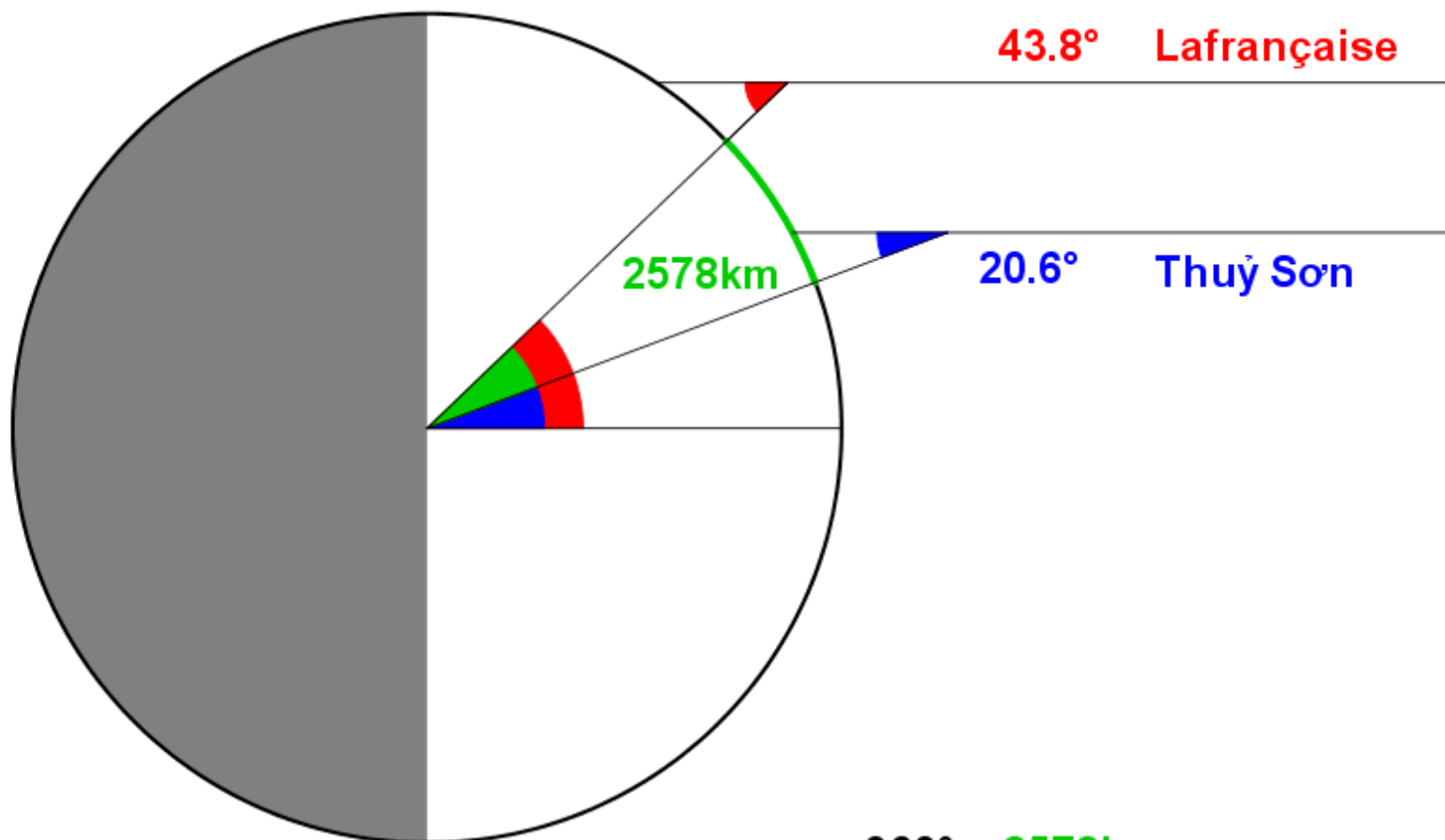


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Lafrançaise	France	Collège Antonin Perbosc	44.127	1.237

Date	Gnomon	Shadow	Angle
11 March 2019	100 cm	109.7 cm	45.3 °
14 March 2019	100.0 cm	106.0 cm	46.7 °
15 March 2019	76.5 cm	75.2 cm	44.5 °
18 March 2019	100.0 cm	100.0 cm	45.0 °
20 March 2019	86.6 cm	84.5 cm	44.3 °
21 March 2019	100.0 cm	96.0 cm	43.8 °
22 March 2019	100 cm	95 cm	43.5 °
25 March 2019	100 cm	90.7 cm	42.2 °
28 March 2019	100 cm	87 cm	41 °
29 March 2019	100 cm	85.8 cm	40.6 °

21/03/2019 (Lafrançaise-France) Latitude: 44.127°

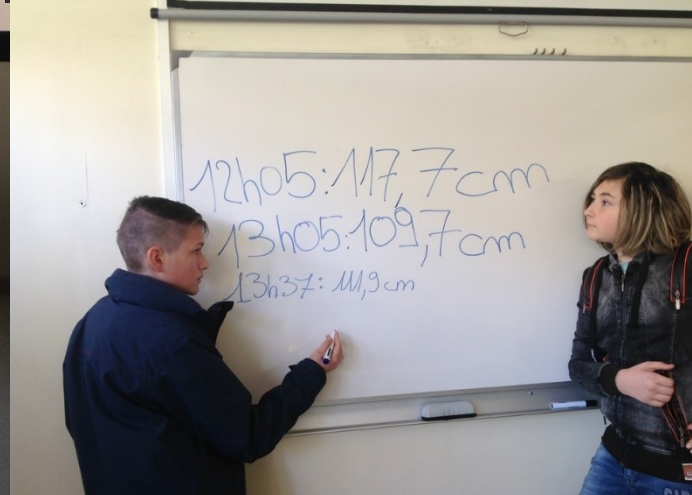
21/03/2019 (Thủy Sơn-Việt Nam) Latitude: 20.926°



Distance	Angle
circumference	360°
2578km	43.8° - 20.6°


$$\text{circumference} = \frac{360^\circ \times 2578\text{km}}{43.8^\circ - 20.6^\circ} = 40003 \text{ km}$$





# Margineni, Romania

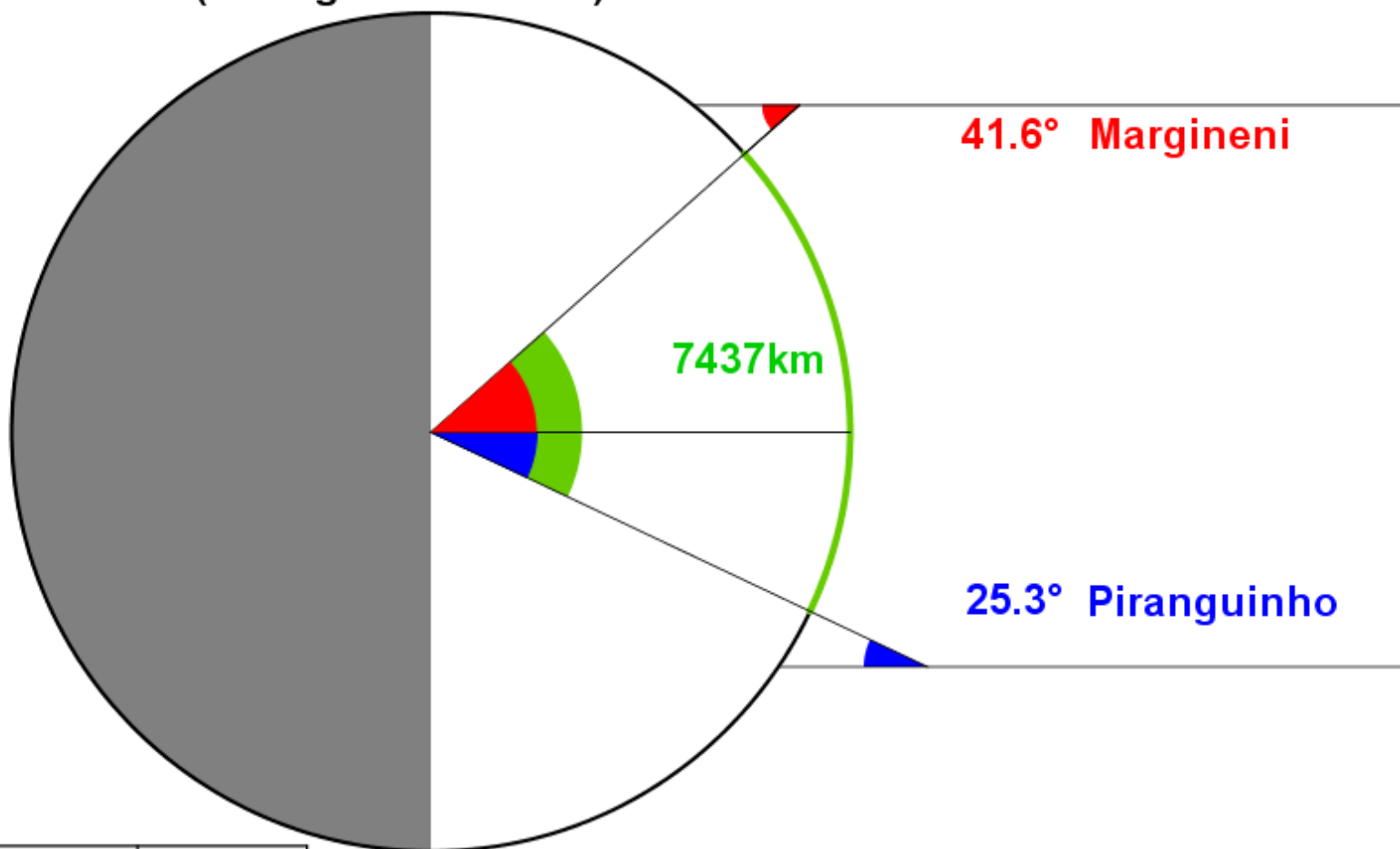


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Margineni	Romania	Secondary School Gh. Popescu	44.533	24.554

Date	Gnomon	Shadow	Angle
18 March 2019	100.0 cm	101.5 cm	45.4 °
19 March 2019	100.0 cm	101.0 cm	45.3 °
20 March 2019	100.0 cm	98.8 cm	44.7 °
21 March 2019	100.0 cm	97.7 cm	44.3 °
22 March 2019	100 cm	95.3 cm	43.6 °
25 March 2019	100 cm	92 cm	42.6 °
28 March 2019	100 cm	88.7 cm	41.6 °

**28/03/2019 (Margineni-Romania) Latitude: 44.533°**

**28/03/2019 (Piranguinho-Brazil) Latitude: -22.411°**




$$\text{circumference} = \frac{360^\circ \times 7437\text{km}}{41.6^\circ + 25.3^\circ} = 40020 \text{ km}$$

Distance	Angle
circumference	360°
7437km	41.6°+25.3°



# Medellín Loyola, Colombia

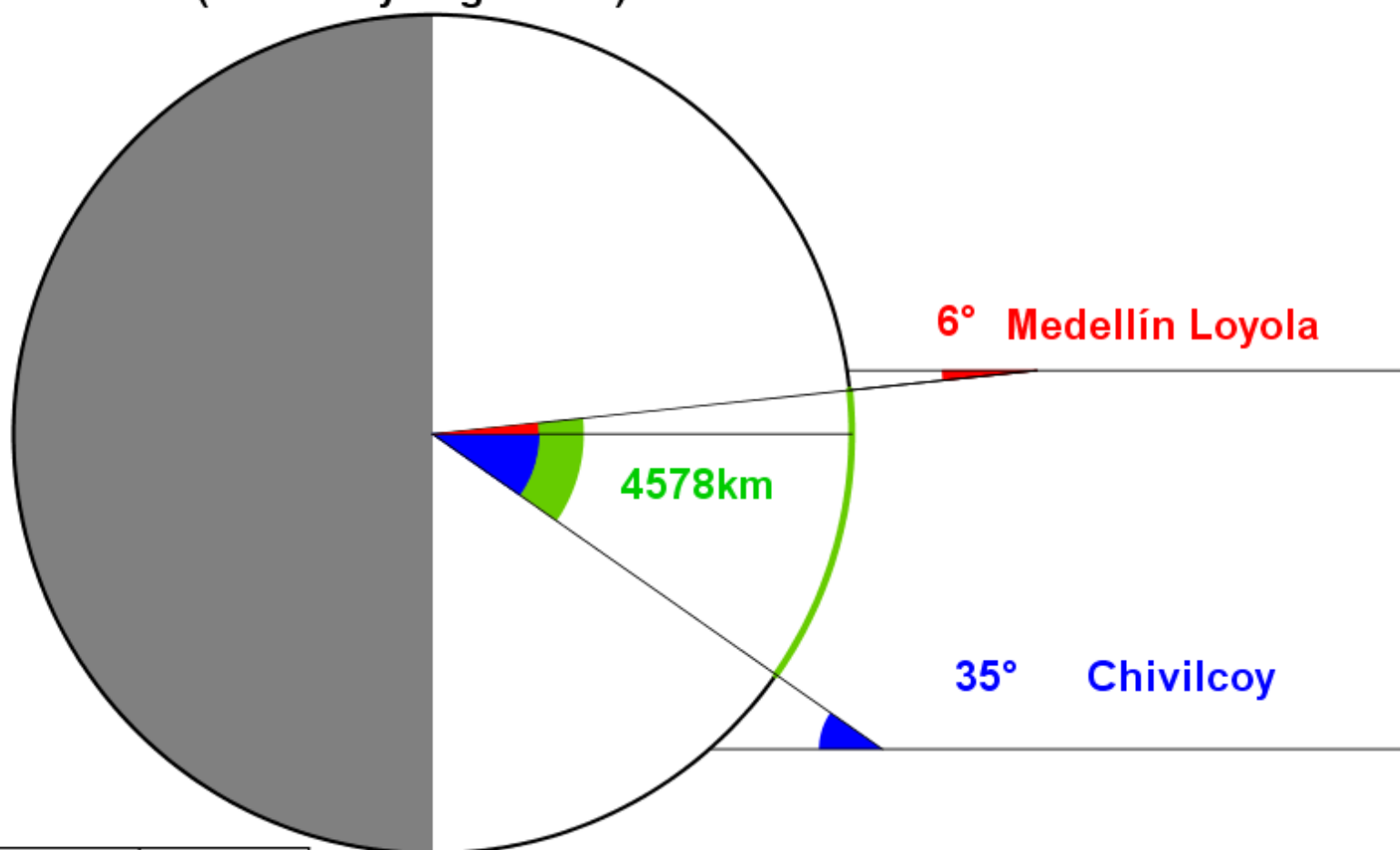


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Medellín Loyola	Colombia	Colegio Loyola	6.297	-75.574

Date	Gnomon	Shadow	Angle
20 March 2019	100.0 cm	10.5 cm	6.0 °

20/03/2019 (Medellín Loyola-Colombia) Latitude: 6.297°

20/03/2019 (Chivilcoy-Argentina) Latitude: -34.911°



6° Medellín Loyola

4578km

35° Chivilcoy

$$\text{circumference} = \frac{360^\circ \times 4578\text{km}}{6^\circ + 35^\circ} = 40197 \text{ km}$$

Distance	Angle
circumference	360°
4578km	6° + 35°



# Nam Định, Việt Nam

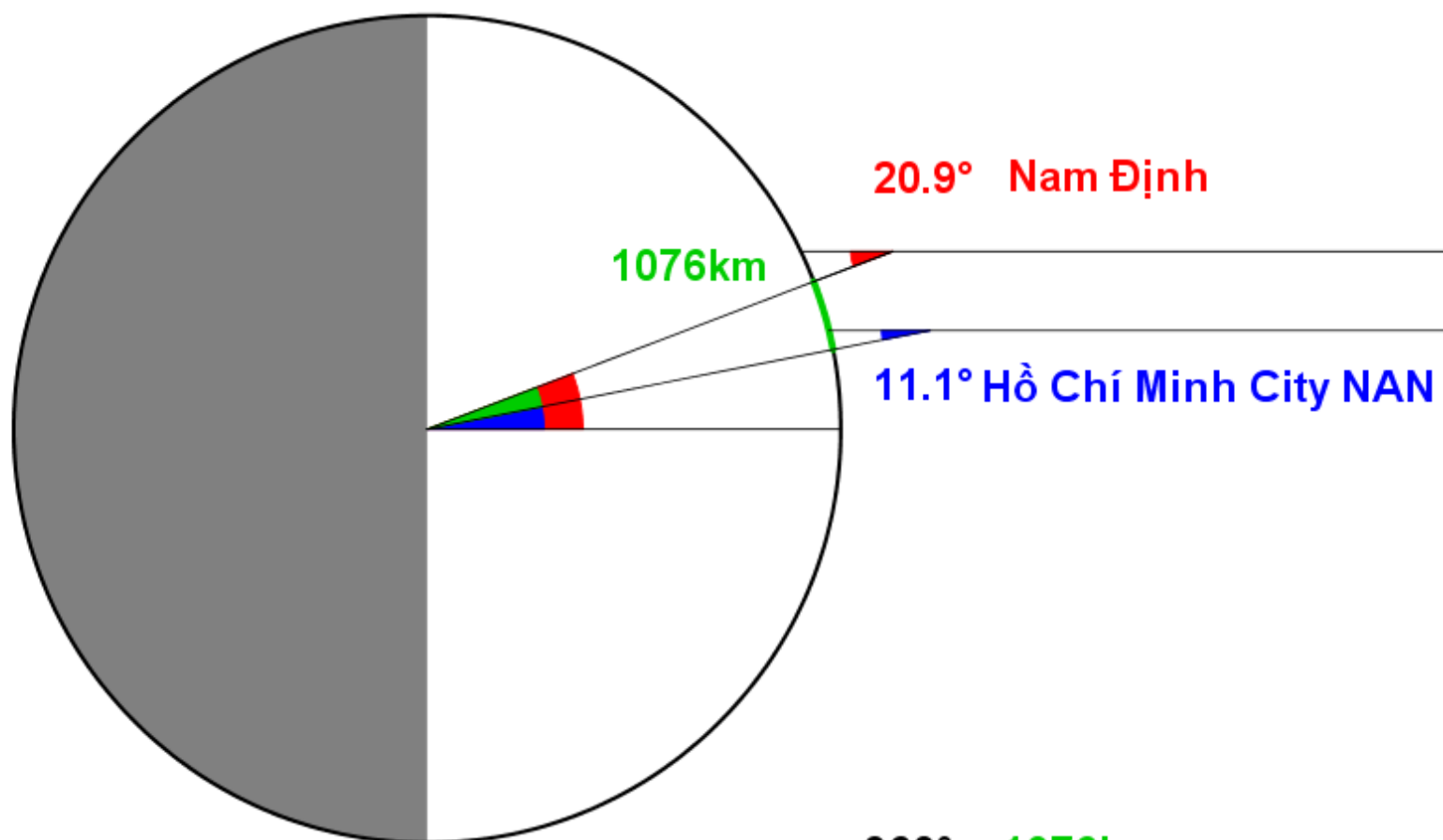


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Nam Định	Việt Nam	Mỹ Lộc High School	20.444	106.129

Date	Gnomon	Shadow	Angle
21 March 2019	50 cm	19.1 cm	20.9 °

21/03/2019 (Nam Định-Việt Nam) Latitude: 20.444°

21/03/2019 (Hồ Chí Minh City NAN-Việt Nam) Latitude: 10.762°



Distance	Angle
circumference	360°
1076km	20.9° - 11.1°


$$\text{circumference} = \frac{360^\circ \times 1076\text{km}}{20.9^\circ - 11.1^\circ} = 39527 \text{ km}$$



ST. TROBRIAN	ST. TROBRIAN	ST. TROBRIAN
NO.	NO.	NO.
1	50	14.3
2	50	14.3
3	50	14.3
4	50	14.3
5	50	14.3
6	50	14.3
7	50	14.3
8	50	14.3
9	50	14.3
10	50	14.3
11	50	14.3
12	50	14.3
13	50	14.3
14	50	14.3
15	50	14.3
16	50	14.3
17	50	14.3
18	50	14.3
19	50	14.3
20	50	14.3
21	50	14.3
22	50	14.3
23	50	14.3
24	50	14.3
25	50	14.3
26	50	14.3
27	50	14.3
28	50	14.3
29	50	14.3
30	50	14.3

# Ngọc Quan, Việt Nam

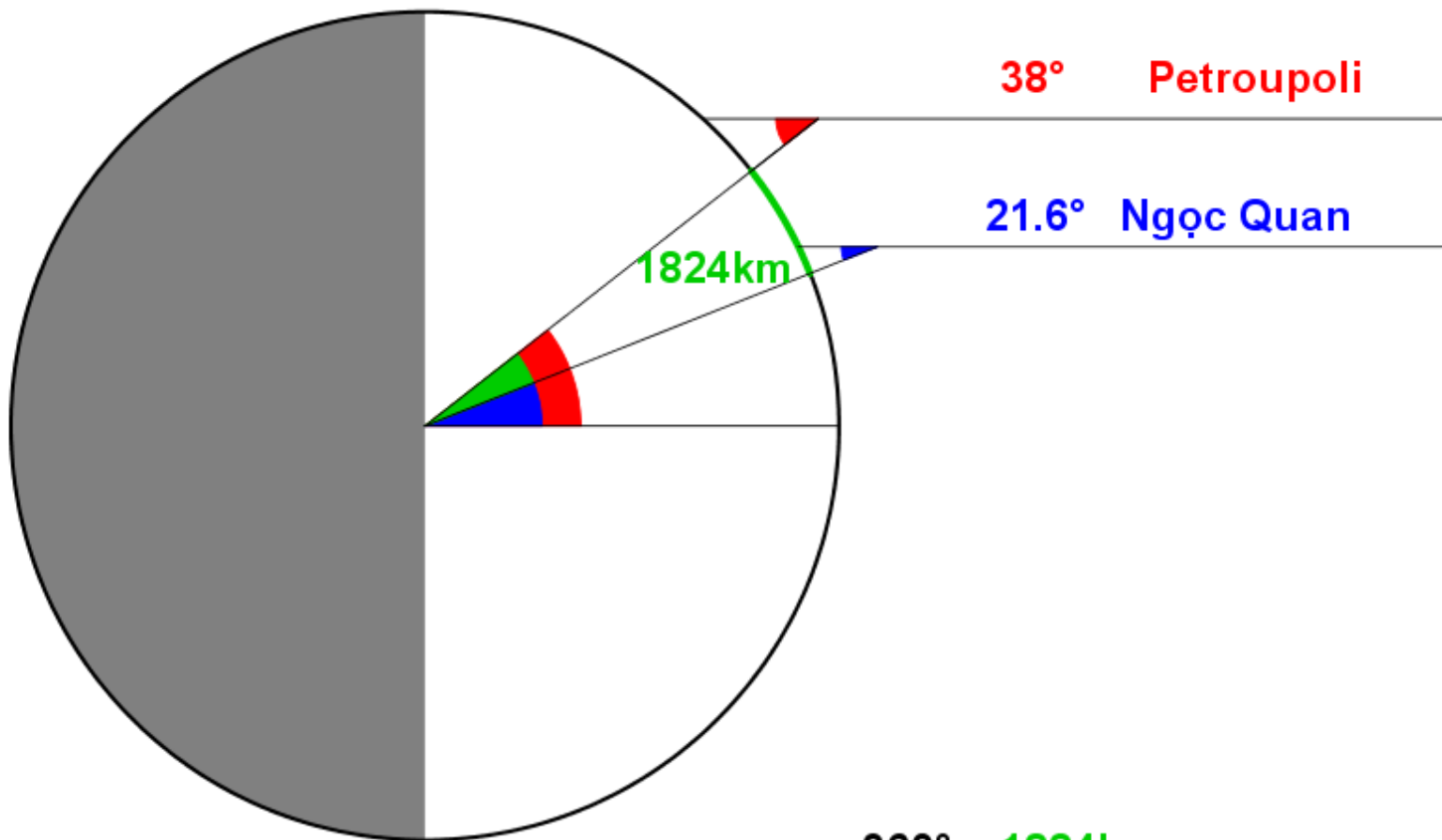


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Ngọc Quan	Việt Nam	Ngoc Quan High School	21.622	105.162

Date	Gnomon	Shadow	Angle
21 March 2019	48 cm	19 cm	21.6 °

21/03/2019 (Petroupoli-Greece) Latitude: 38.036°

21/03/2019 (Ngọc Quan-Việt Nam) Latitude: 21.622°



Distance	Angle
circumference	360°
1824km	38° - 21.6°

$$\text{circumference} = \frac{360^\circ \times 1824\text{km}}{38^\circ - 21.6^\circ} = 40039 \text{ km}$$





# Novi Sad, Serbia

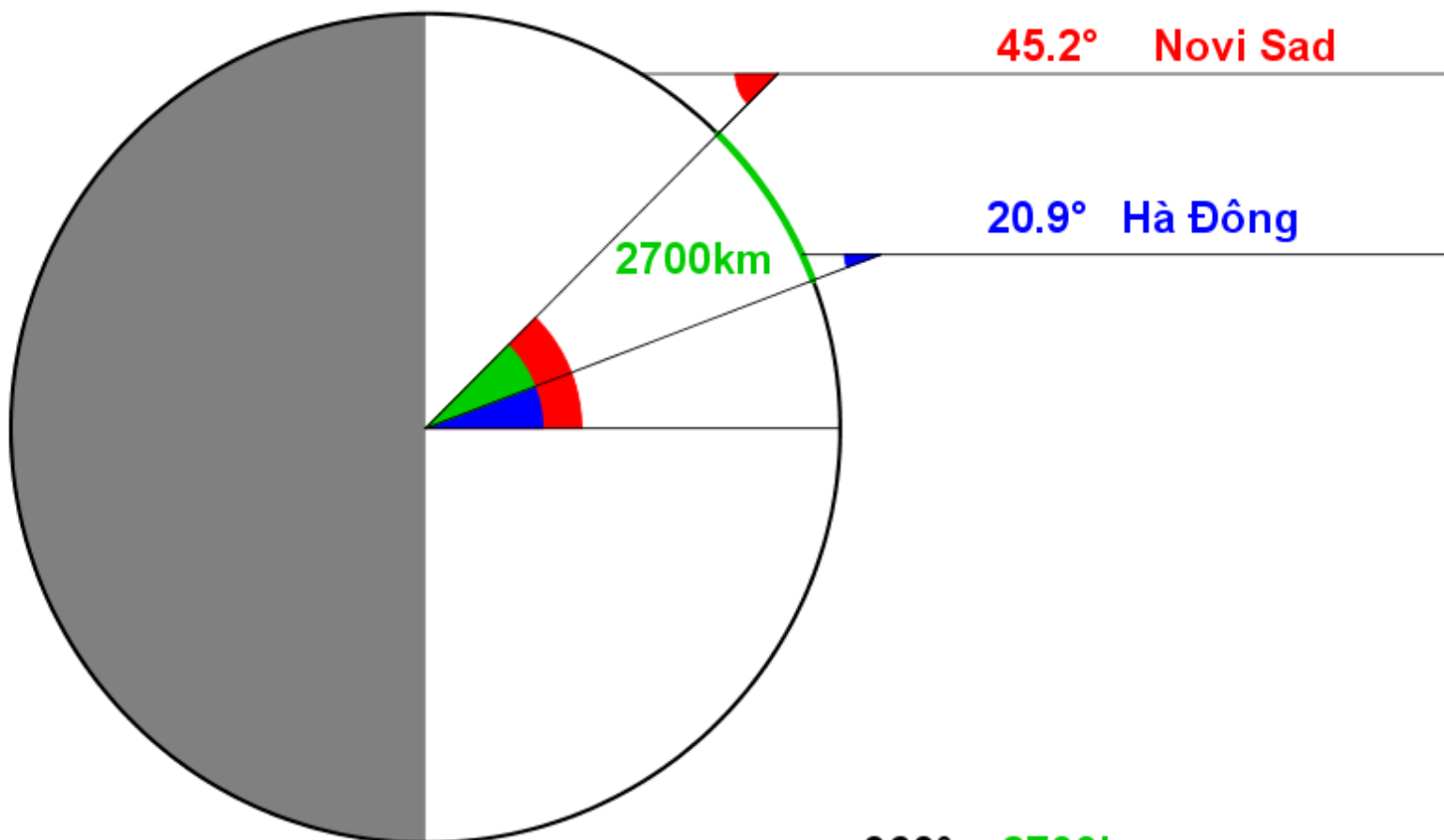


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Novi Sad	Serbia	Osnovna škola "Vasa Stajić"	45.246	19.827

Date	Gnomon	Shadow	Angle
21 March 2019	100 cm	100.7 cm	45.2 °

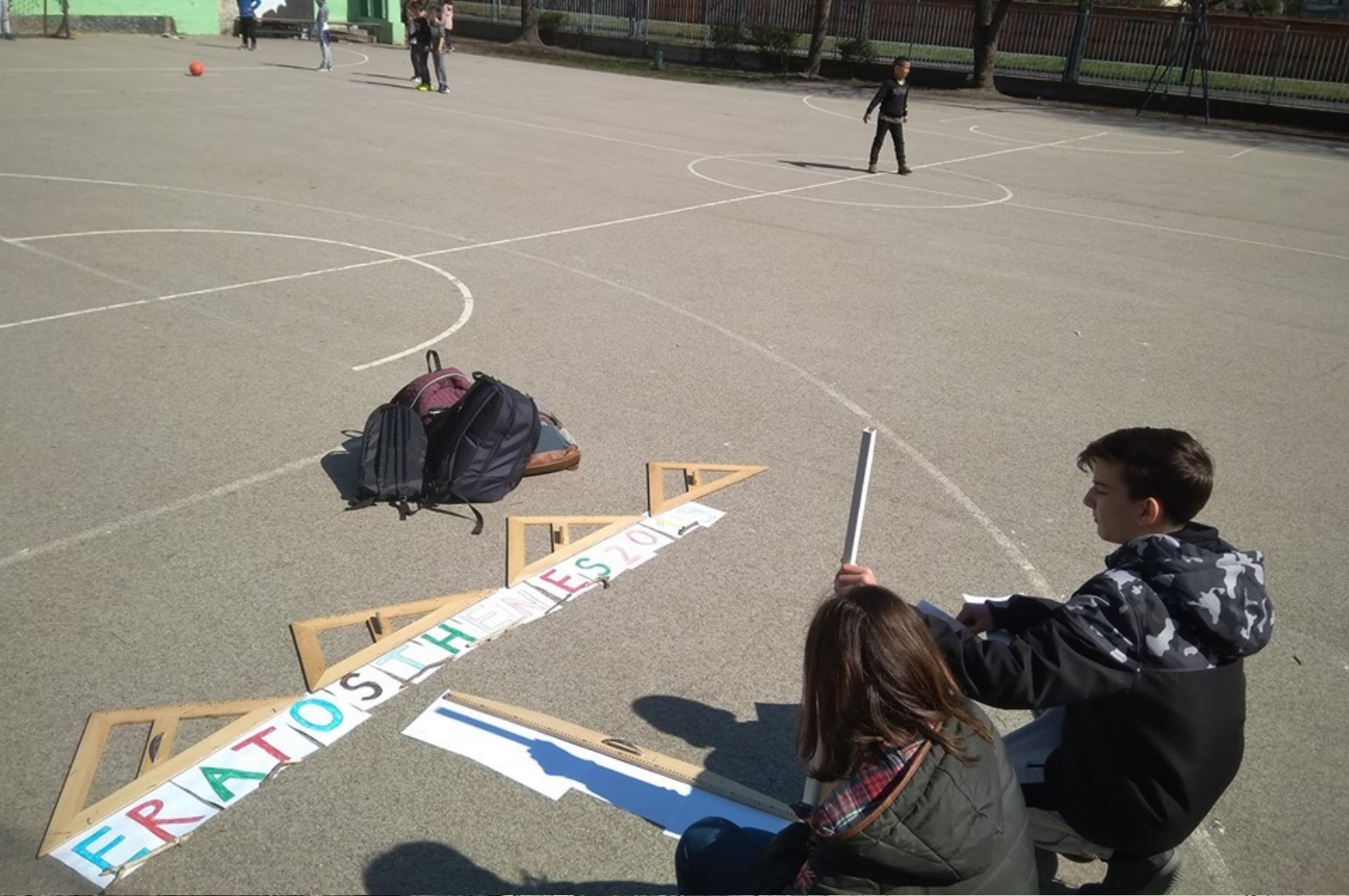
21/03/2019 (Novi Sad-Serbia) Latitude: 45.246°

21/03/2019 (Hà Đông-Việt Nam) Latitude: 20.943°



Distance	Angle
circumference	360°
2700km	45.2° - 20.9°

$$\text{circumference} = \frac{360^\circ \times 2700\text{km}}{45.2^\circ - 20.9^\circ} = 40000 \text{ km}$$



# Petroupoli, Greece

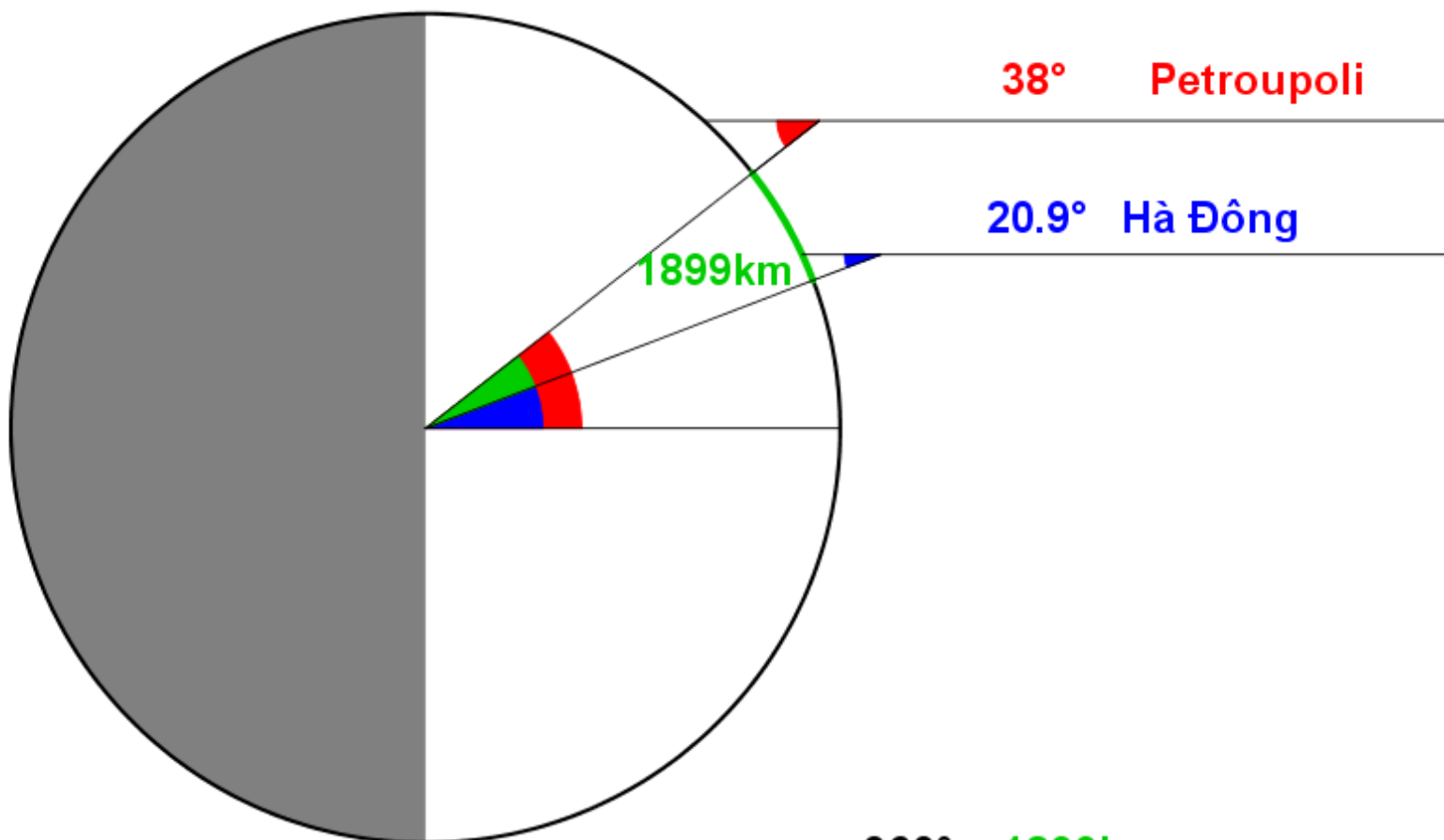


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Petroupoli	Greece	4th Junior High School	38.036	23.674

Date	Gnomon	Shadow	Angle
08 March 2019	60 cm	55.5 cm	42.8 °
17 March 2019	31.4 cm	25.8 cm	39.4 °
18 March 2019	60.0 cm	48.6 cm	39.0 °
20 March 2019	60.0 cm	47.0 cm	38.1 °
21 March 2019	60 cm	46.9 cm	38 °

21/03/2019 (Petroupoli-Greece) Latitude: 38.036°

21/03/2019 (Hà Đông-Việt Nam) Latitude: 20.943°



$$\text{circumference} = \frac{360^\circ \times 1899\text{km}}{38^\circ - 20.9^\circ} = 39979 \text{ km}$$

Distance	Angle
circumference	360°
1899km	38° - 20.9°



# Piranguinho, Brazil

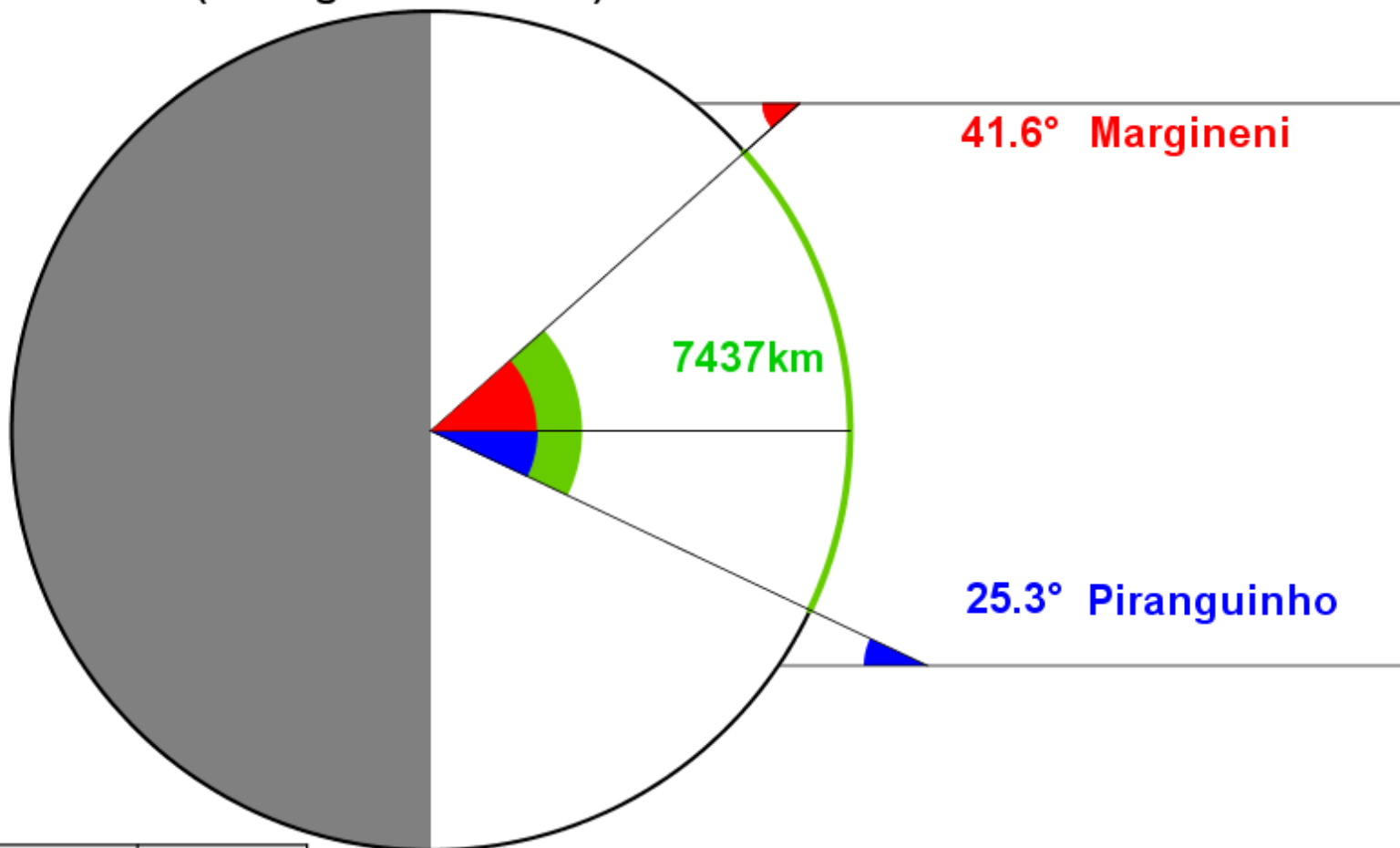


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Piranguinho	Brazil	Universidade Federal de Itajubá	-22.411	-45.535

Date	Gnomon	Shadow	Angle
19 March 2019	70.0 cm	-27.6 cm	-21.5 °
20 March 2019	70 cm	-28.4 cm	-22.1 °
28 March 2019	70 cm	-33.1 cm	-25.3 °

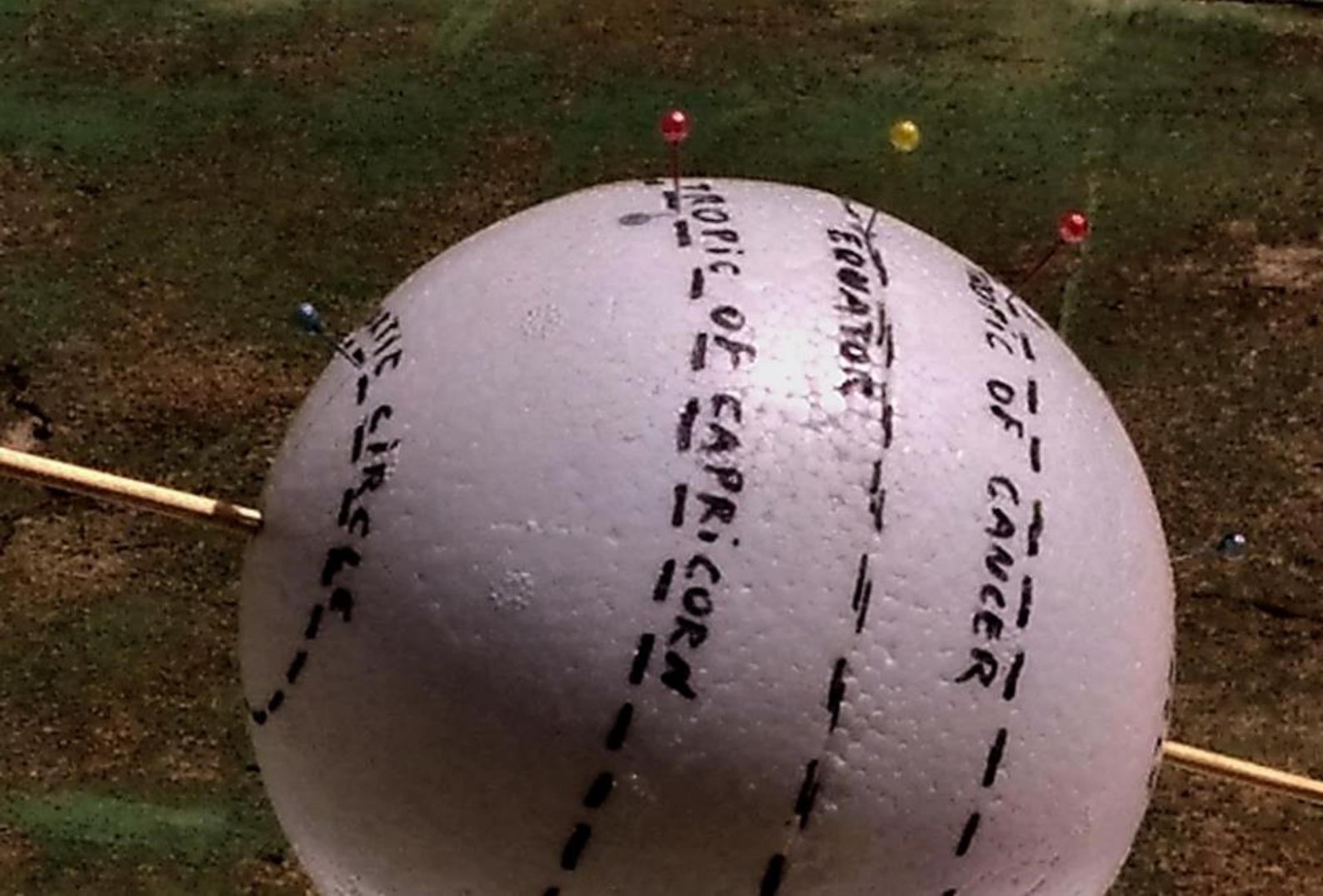
28/03/2019 (Margineni-Romania) Latitude: 44.533°

28/03/2019 (Piranguinho-Brazil) Latitude: -22.411°



Distance	Angle
circumference	360°
7437km	41.6°+25.3°

$$\text{circumference} = \frac{360^\circ \times 7437\text{km}}{41.6^\circ + 25.3^\circ} = 40020 \text{ km}$$



# Râmnicu Vâlcea, Romania

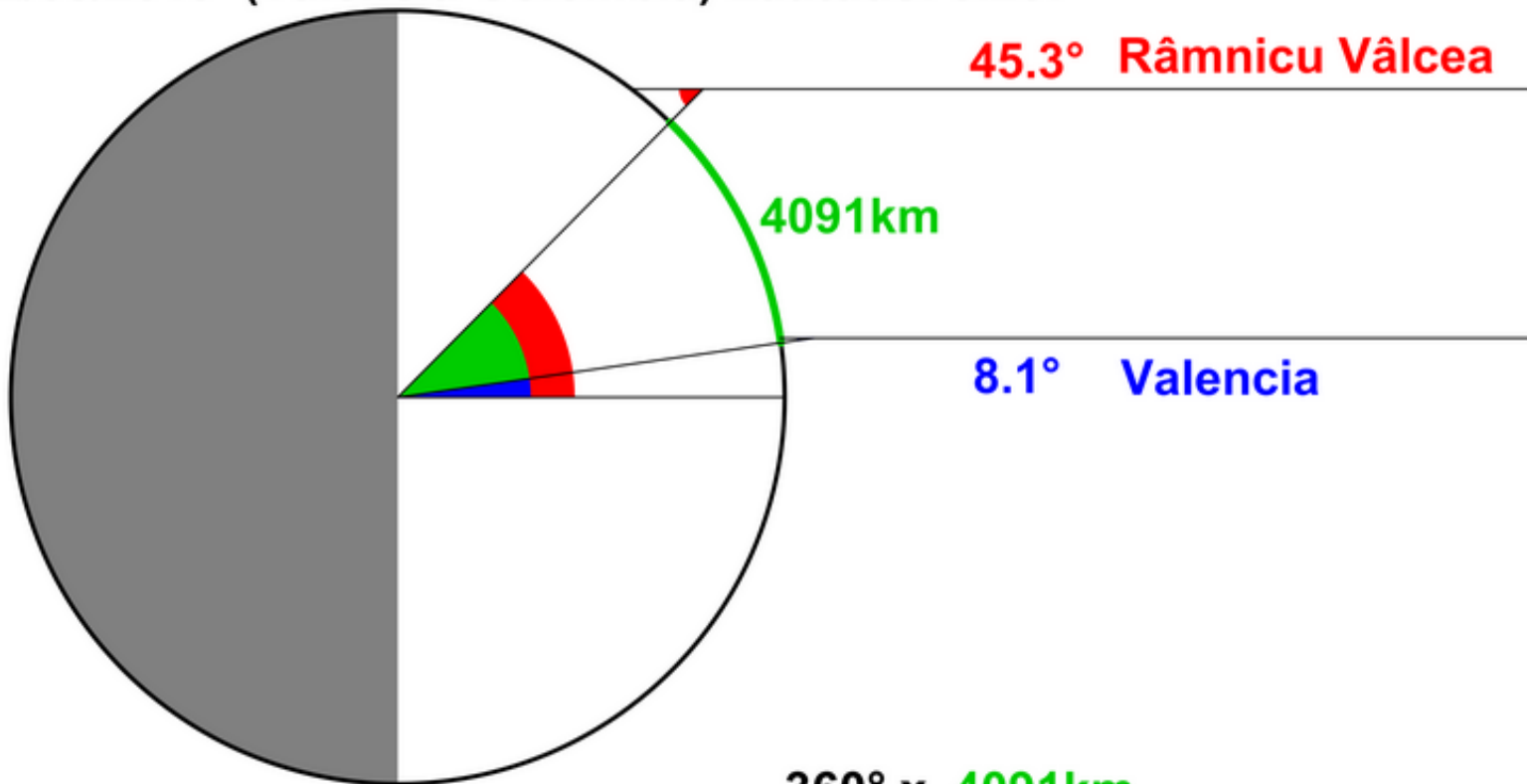


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Râmnicu Vâlcea	Romania	SG Nr4 Gradinita Dumbrava Minuata	45.093	24.358

Date	Gnomon	Shadow	Angle
22 March 2019	30 cm	29.4 cm	44.4 °
25 March 2019	30 cm	28.2 cm	43.2 °

22/03/2019 (Râmnicu Vâlcea-Romania) Latitude: 45.093°

22/03/2019 (Valencia-Colombia) Latitude: 8.267°



$$\text{circumference} = \frac{360^\circ \times 4091\text{km}}{45.3^\circ - 8.1^\circ} = 39590 \text{ km}$$


Distance	Angle
circumference	360°
4091km	45.3° - 8.1°





# Rio de Janeiro, Brazil

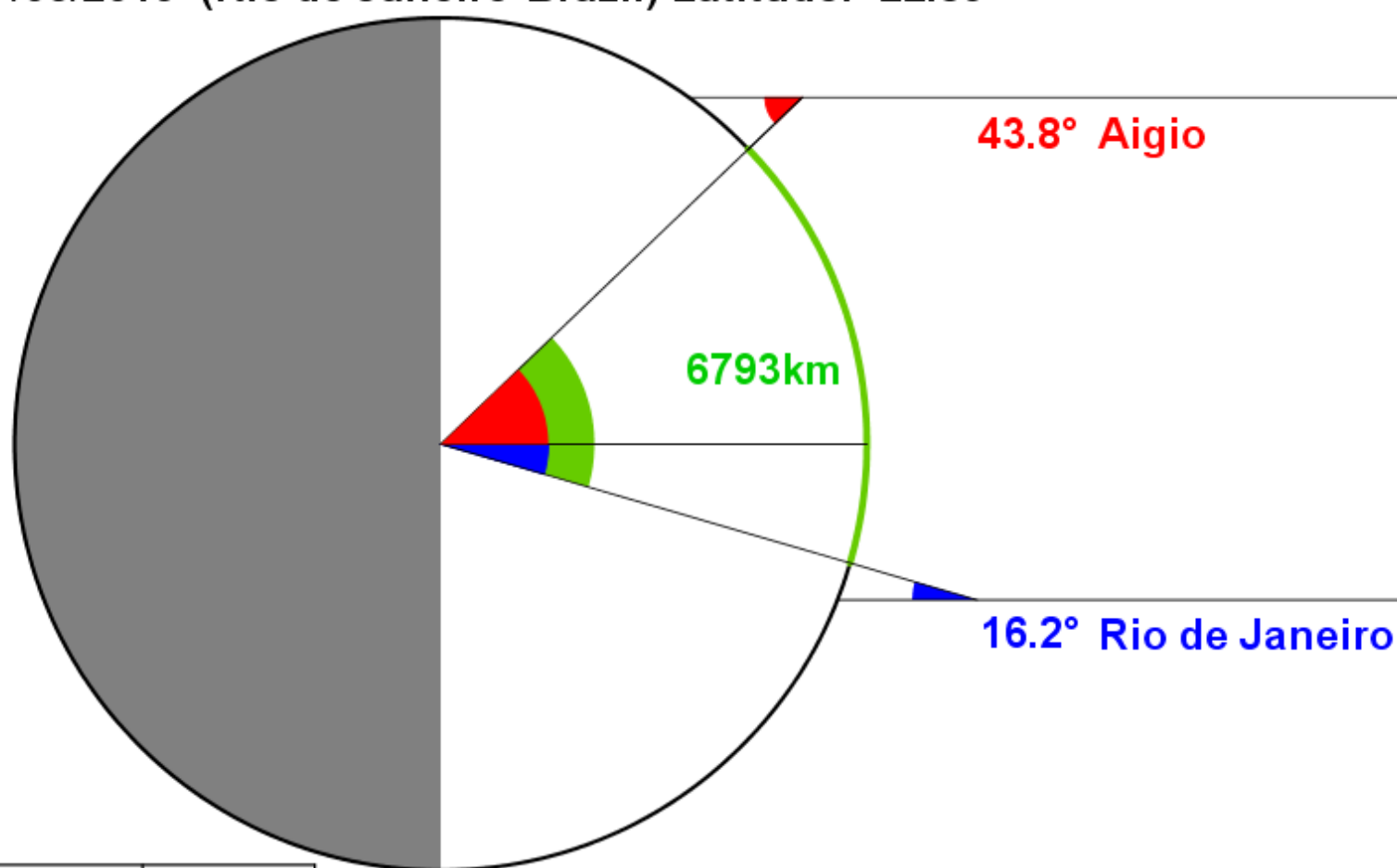


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Rio de Janeiro	Brazil	Centro Educacional Nosso Mundo	-22.890	-43.317

Date	Gnomon	Shadow	Angle
07 March 2019	100 cm	-29 cm	-16.2 °
08 March 2019	100 cm	-29 cm	-16.2 °
11 March 2019	100.0 cm	-29.0 cm	-16.2 °
13 March 2019	100.0 cm	-29.0 cm	-16.2 °
20 March 2019	100 cm	-38 cm	-20.8 °
21 March 2019	100 cm	-38 cm	-20.8 °
25 March 2019	100 cm	-40 cm	-21.8 °
26 March 2019	100 cm	-40 cm	-21.8 °
27 March 2019	100 cm	-40 cm	-21.8 °
28 March 2019	100 cm	-40 cm	-21.8 °

07/03/2019 (Aigio-Greece) Latitude: 38.252°

07/03/2019 (Rio de Janeiro-Brazil) Latitude: -22.89°



$$\text{circumference} = \frac{360^\circ \times 6793\text{km}}{43.8^\circ + 16.2^\circ} = 40758 \text{ km}$$

Distance	Angle
circumference	360°
6793km	43.8° + 16.2°



# Sainte Marie, France

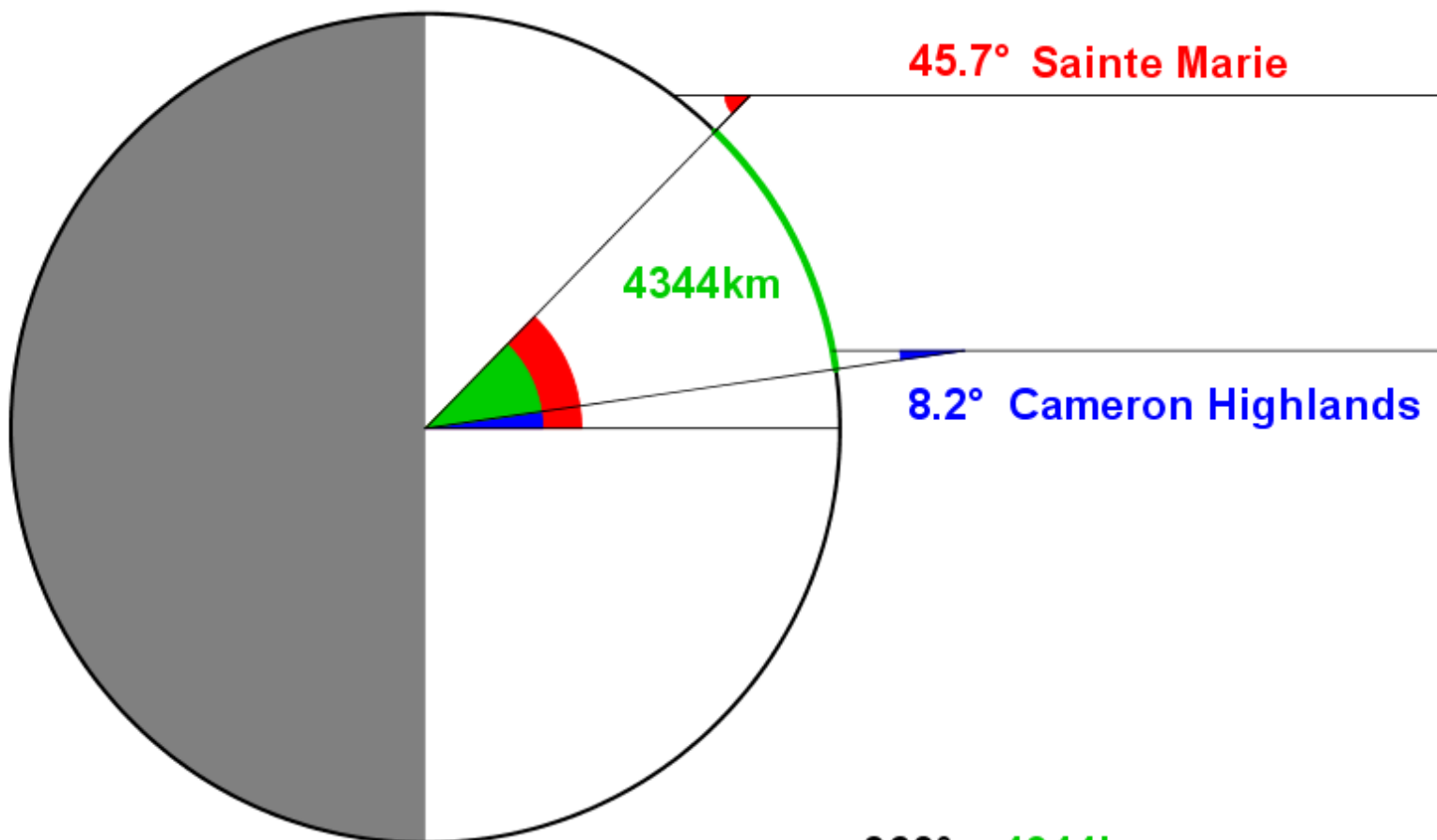


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Sainte Marie	France	Ecole Elémentaire Publique	43.661	0.874

Date	Gnomon	Shadow	Angle
12 March 2019	100 cm	102.5 cm	45.7 °

12/03/2019 (Sainte Marie-France) Latitude: 43.661°

12/03/2019 (Cameron Highlands-Malaysia) Latitude: 4.564°



$$\text{circumference} = \frac{360^\circ \times 4344\text{km}}{45.7^\circ - 8.2^\circ} = 41702 \text{ km}$$

Distance	Angle
circumference	360°
4344km	45.7° - 8.2°



# São Paulo, Brazil

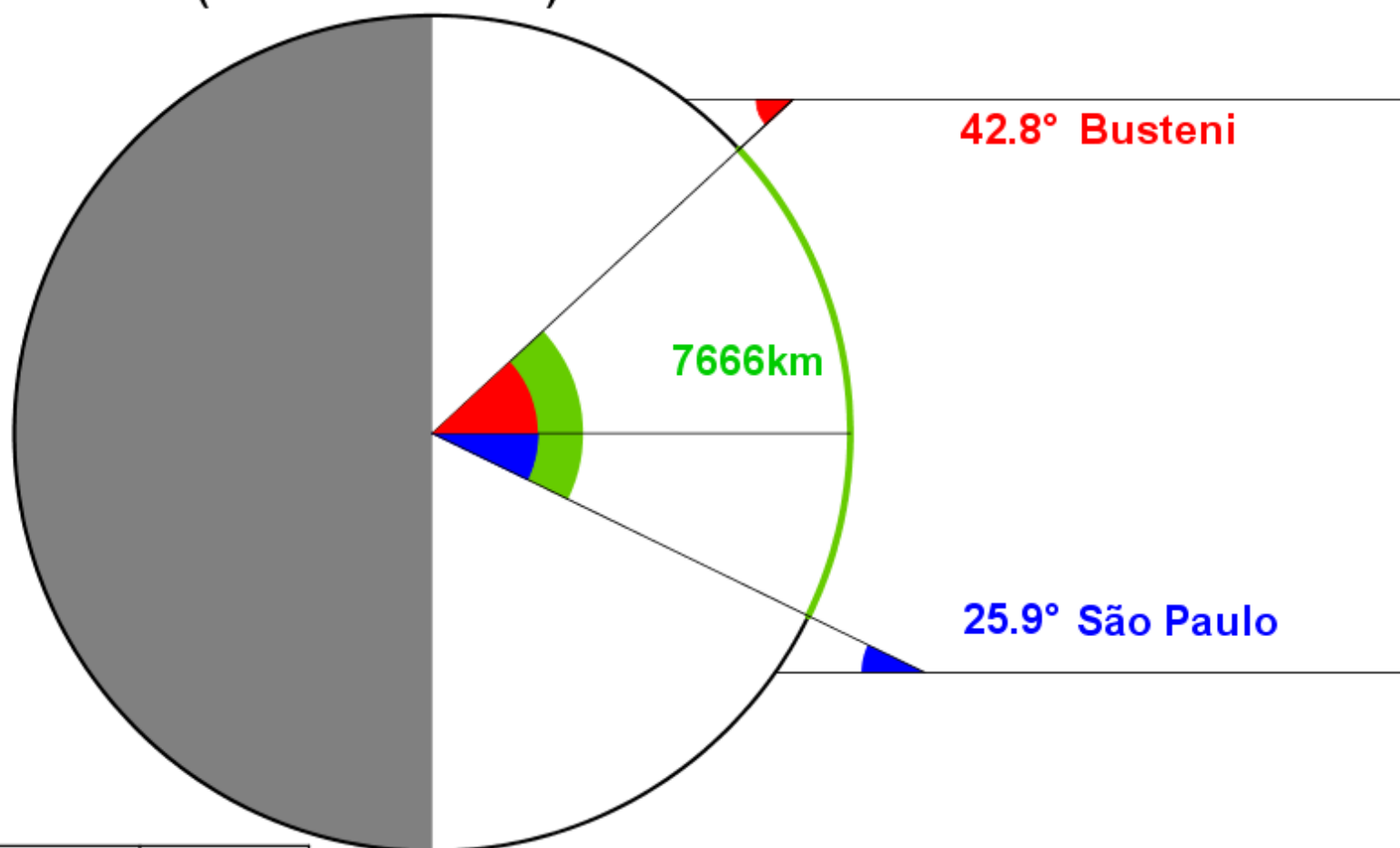


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	São Paulo	Brazil	Colégio Miguel de Cervantes	-23.586	-46.610

Date	Gnomon	Shadow	Angle
26 March 2019	100.0 cm	-48.5 cm	-25.9 °

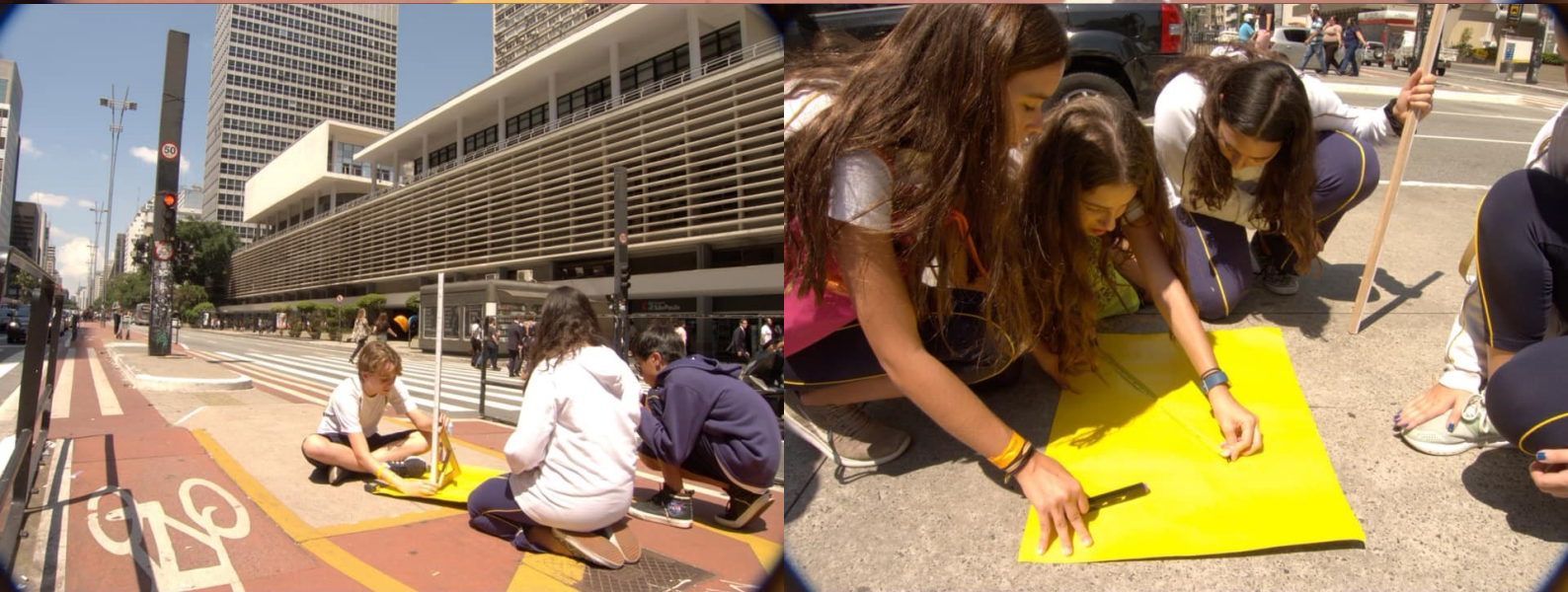
27/03/2019 (Busteni-Romania) Latitude: 45.416°

26/03/2019 (São Paulo-Brazil) Latitude: -23.586°



$$\text{circumference} = \frac{360^\circ \times 7666\text{km}}{42.8^\circ + 25.9^\circ} = 40171 \text{ km}$$

Distance	Angle
circumference	360°
7666km	42.8°+25.9°



# Tân Thành Đông, Việt Nam

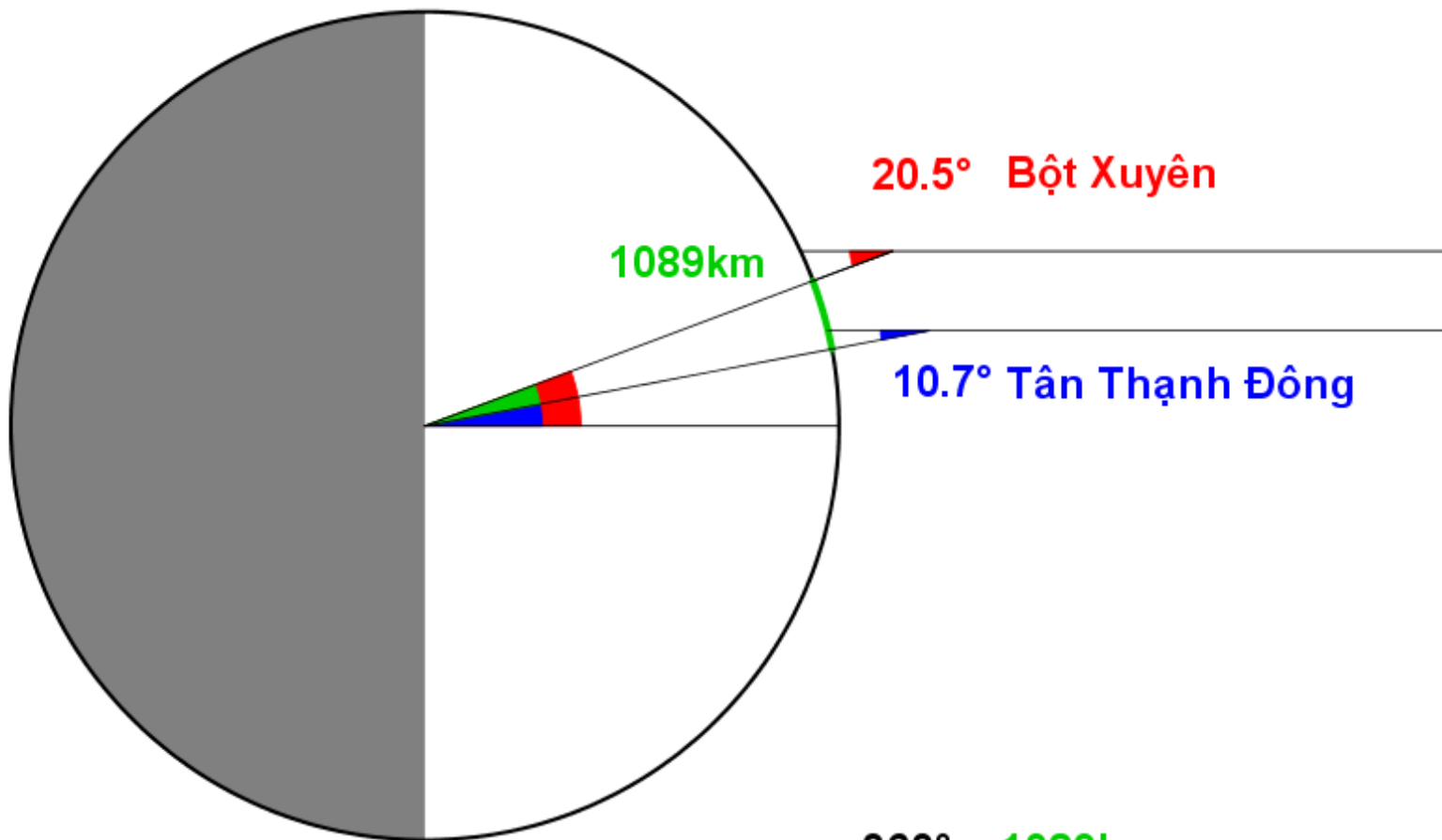


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Tân Thành Đông	Việt Nam	Trung Phu High School	10.982	106.580

Date	Gnomon	Shadow	Angle
21 March 2019	45 cm	8.5 cm	10.7 °

21/03/2019 (Bột Xuyên-Việt Nam) Latitude: 20.783°

21/03/2019 (Tân Thành Đông-Việt Nam) Latitude: 10.982°



Distance	Angle
circumference	360°
1089km	20.5° - 10.7°

$$\text{circumference} = \frac{360^\circ \times 1089\text{km}}{20.5^\circ - 10.7^\circ} = 40004 \text{ km}$$





# Thanh Trì, Việt Nam

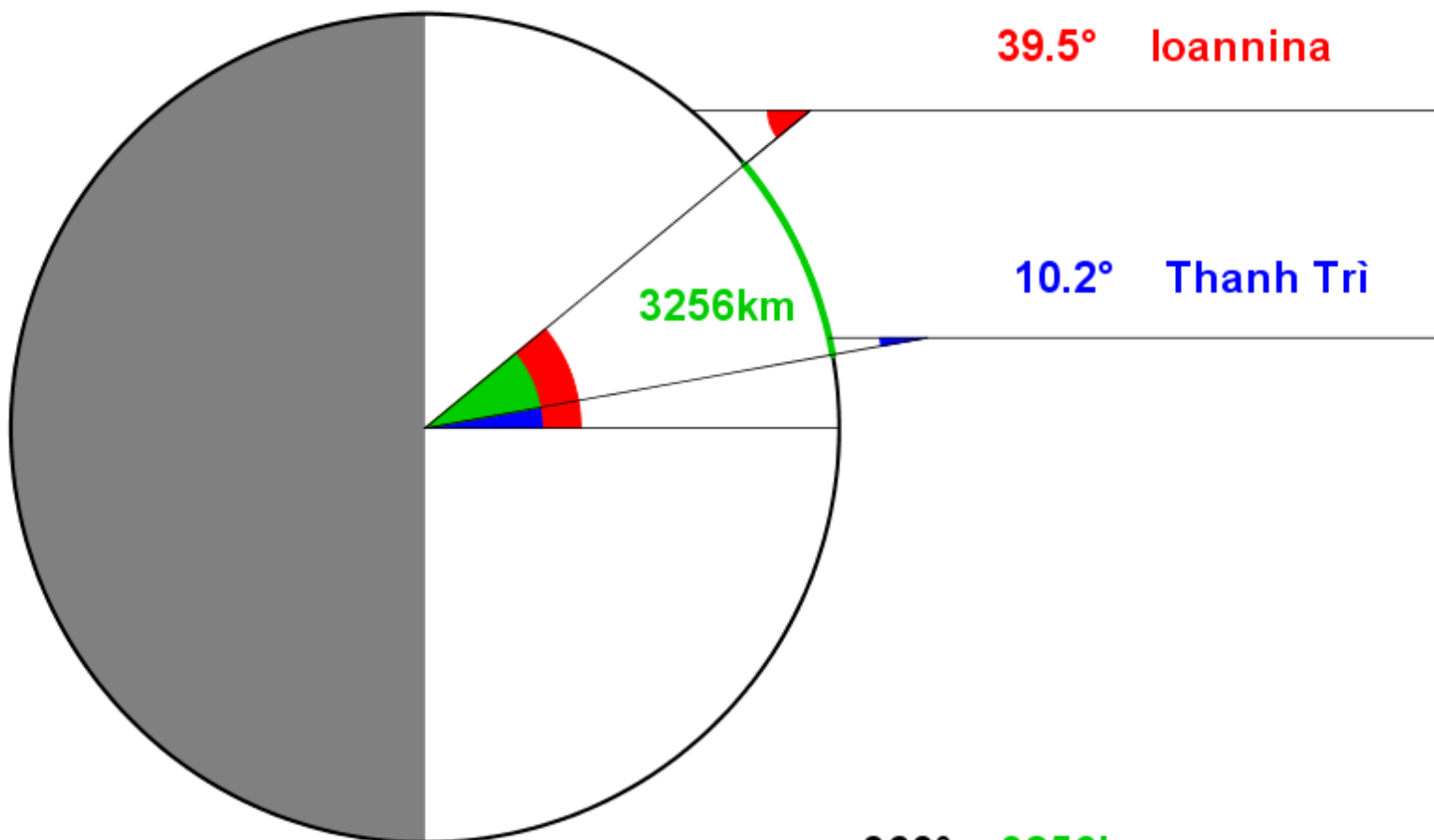


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Thanh Trì	Việt Nam	Thanh Trì secondary school	10.357	106.610

Date	Gnomon	Shadow	Angle
21 March 2019	50 cm	9 cm	10.2 °

21/03/2019 (Ioannina-Greece) Latitude: 39.665°

21/03/2019 (Thanh Trì-Việt Nam) Latitude: 10.357°



Distance	Angle
circumference	360°
3256km	39.5° - 10.2°

$$\text{circumference} = \frac{360^\circ \times 3256\text{km}}{39.5^\circ - 10.2^\circ} = 40005 \text{ km}$$



# thị trấn Vôi, Việt Nam

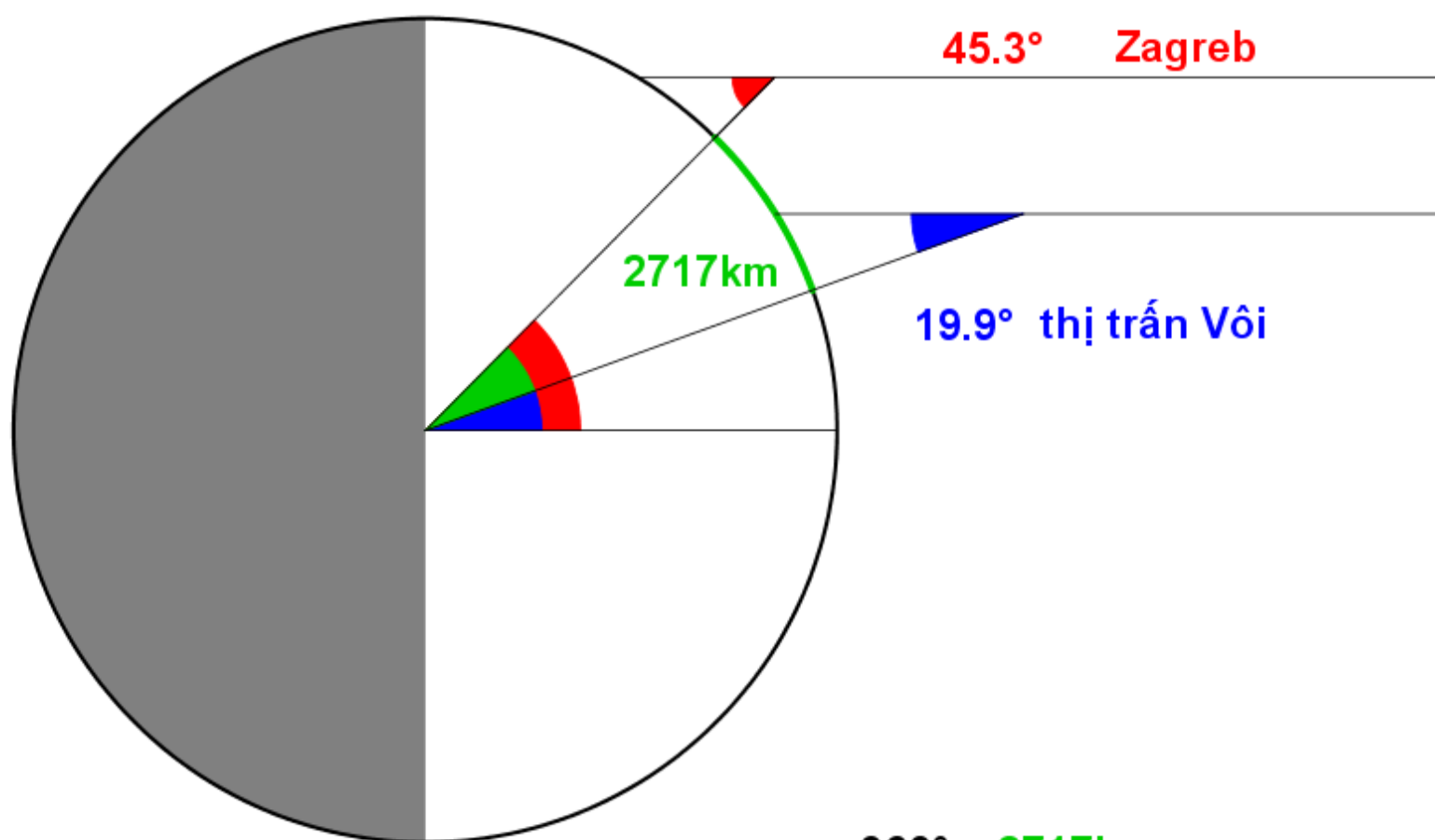


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	thị trấn Vôi	Việt Nam	Voi Secondary School	21.358	106.254

Date	Gnomon	Shadow	Angle
21 March 2019	26.2 cm	9.5 cm	19.9 °

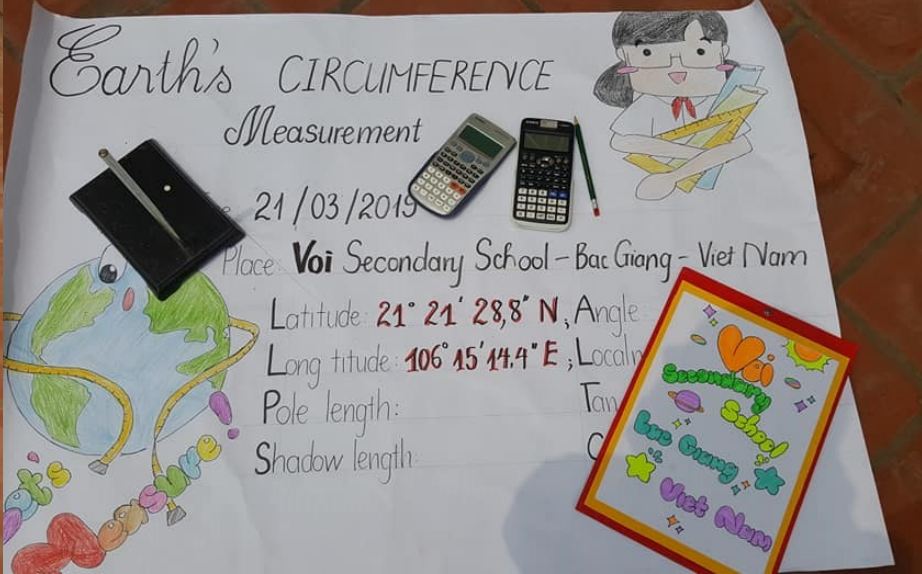
21/03/2019 (Zagreb-Croatia) Latitude: 45.812°

21/03/2019 (thị trấn Vôi-Việt Nam) Latitude: 21.358°



$$\text{circumference} = \frac{360^\circ \times 2717\text{km}}{45.3^\circ - 19.9^\circ} = 38509 \text{ km}$$

Distance	Angle
circumference	360°
2717km	45.3° - 19.9°



# Thiseio, Greece

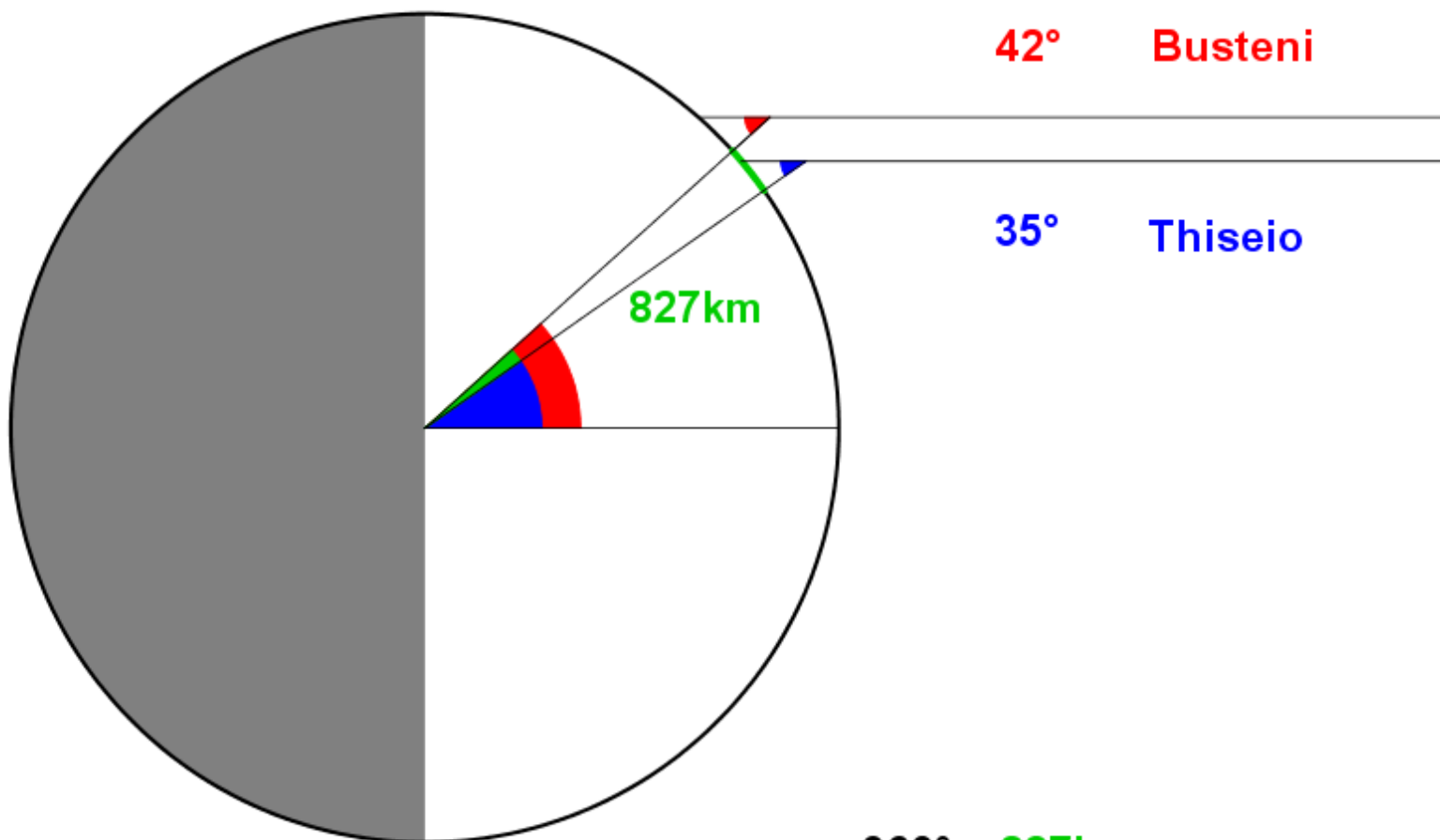


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Thiseio	Greece	Athens Old Observatory	37.974	23.720

Date	Gnomon	Shadow	Angle
29 March 2019	60.0 cm	42.0 cm	35.0 °

29/03/2019 (Busteni-Romania) Latitude: 45.416°

29/03/2019 (Thiseio-Greece) Latitude: 37.974°



42° Busteni

35° Thiseio

827km

$$\text{circumference} = \frac{360^\circ \times 827\text{km}}{42^\circ - 35^\circ} = 42531 \text{ km}$$

Distance	Angle
circumference	360°
827km	42° - 35°



# Thủy Sơn, Việt Nam

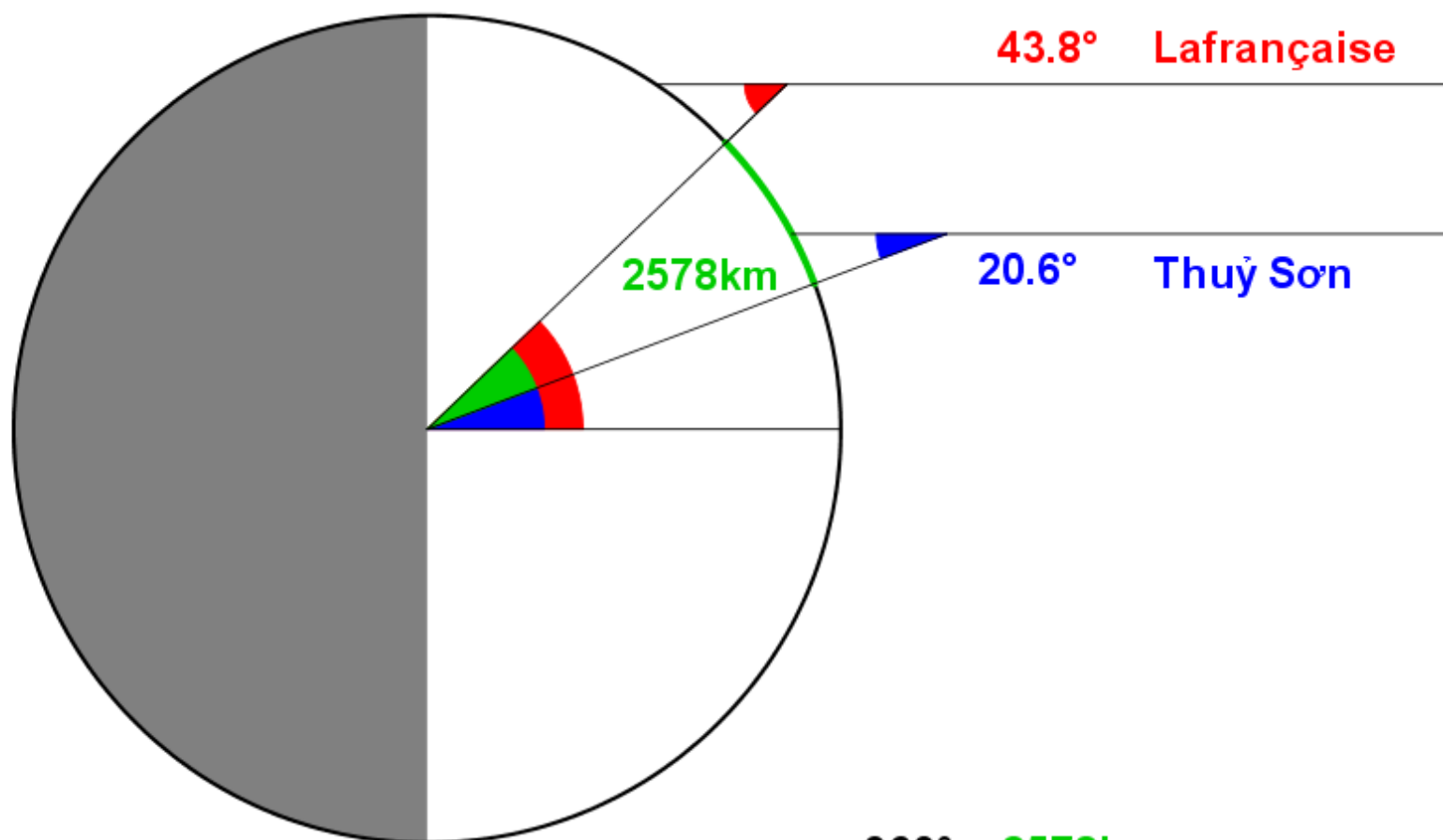


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Thủy Sơn	Việt Nam	Ly Thuong Kiet High School	20.926	106.654

Date	Gnomon	Shadow	Angle
21 March 2019	55.5 cm	20.9 cm	20.6 °

21/03/2019 (Lafrançaise-France) Latitude: 44.127°

21/03/2019 (Thủy Sơn-Việt Nam) Latitude: 20.926°



Distance	Angle
circumference	360°
2578km	43.8° - 20.6°

$$\text{circumference} = \frac{360^\circ \times 2578\text{km}}{43.8^\circ - 20.6^\circ} = 40003 \text{ km}$$





# Timisoara, Romania

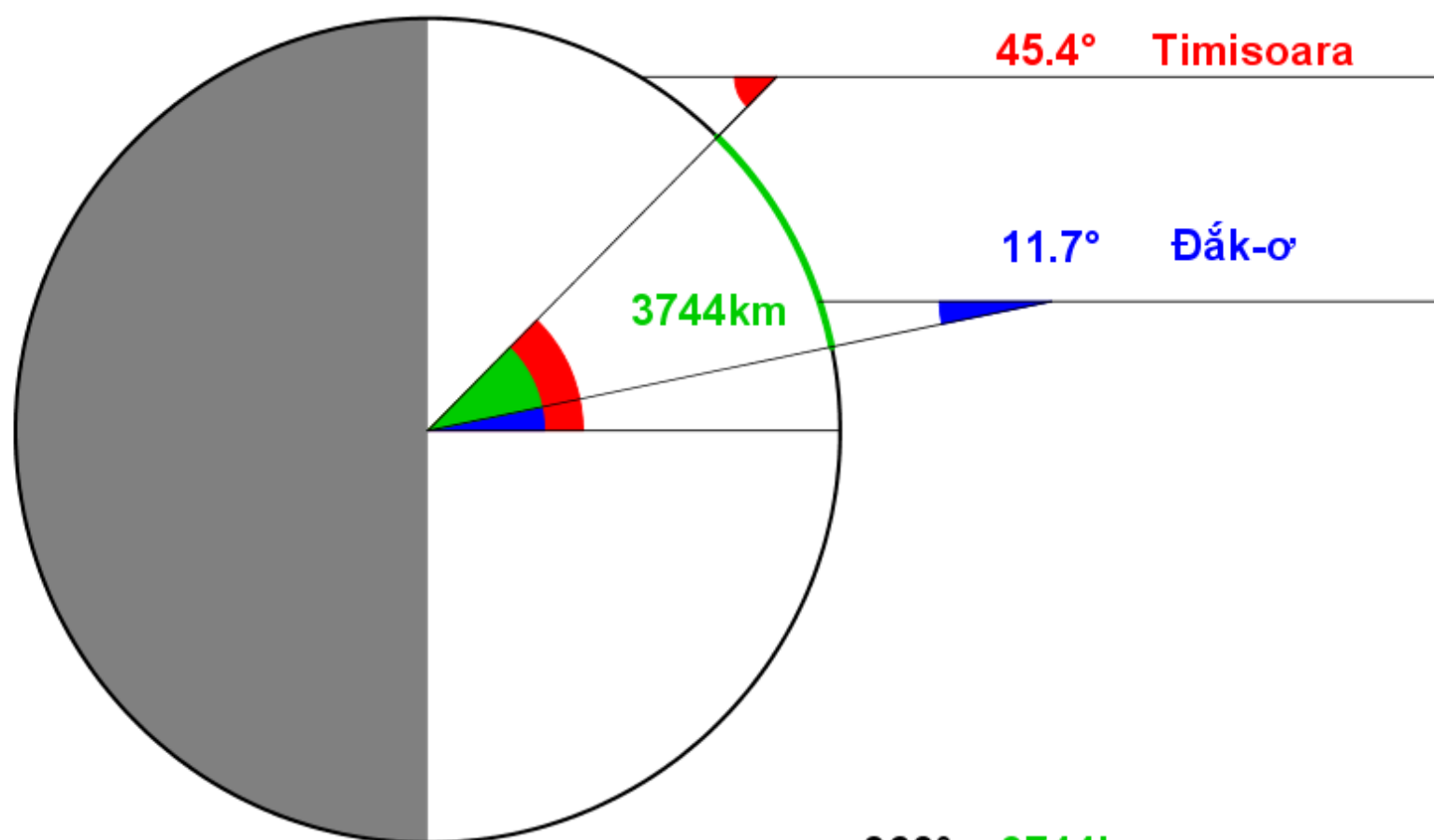


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Timisoara	Romania	Liceul Ioan Slavici	45.745	21.252

Date	Gnomon	Shadow	Angle
21 March 2019	100.0 cm	101.4 cm	45.4 °

21/03/2019 (Timisoara-Romania) Latitude: 45.745°

21/03/2019 (Đắk-ơ-Việt Nam) Latitude: 12.043°



Distance	Angle
circumference	360°
3744km	45.4° - 11.7°

$$\text{circumference} = \frac{360^\circ \times 3744\text{km}}{45.4^\circ - 11.7^\circ} = 39995 \text{ km}$$



# Toàn Thắng, Việt Nam

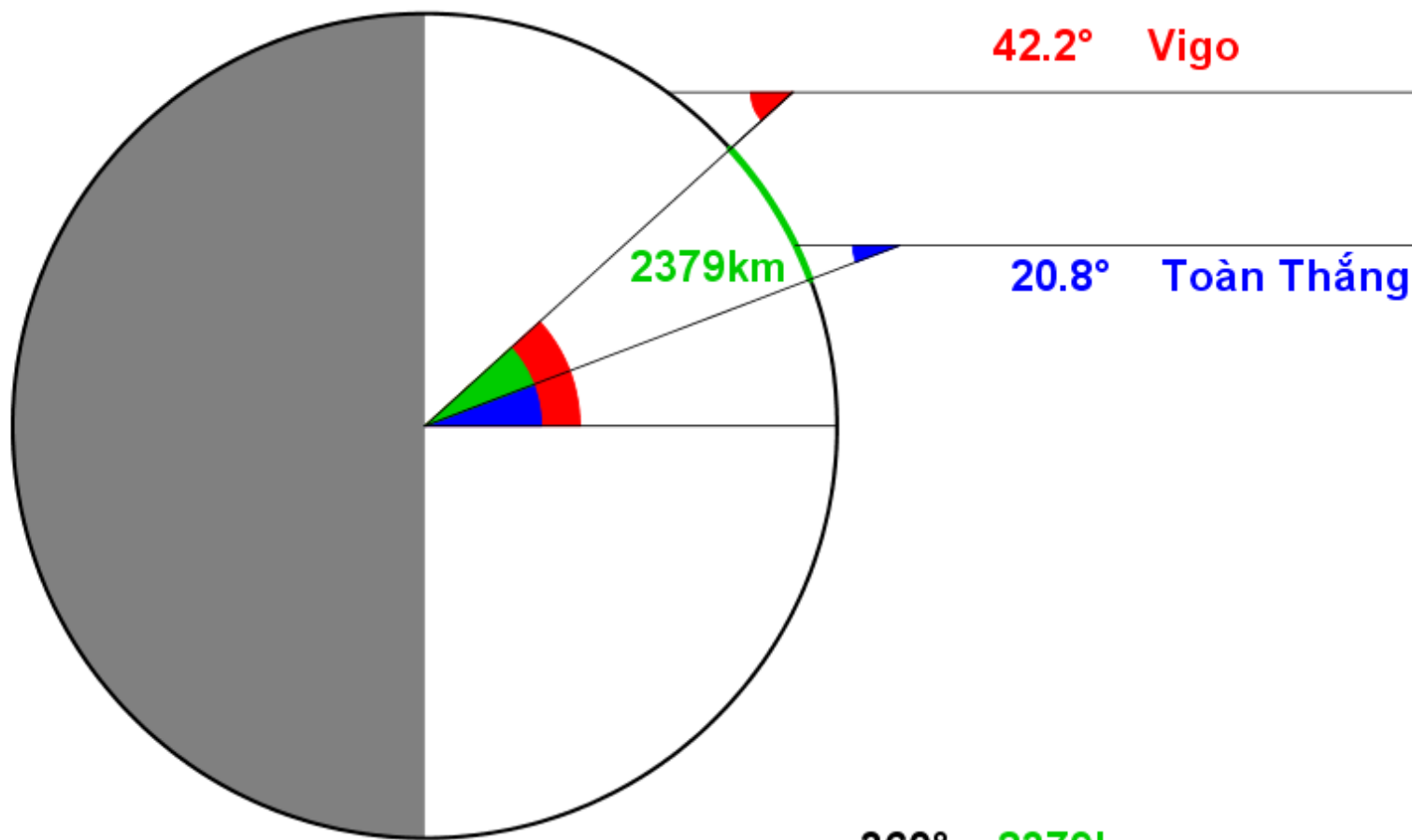


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Toàn Thắng	Việt Nam	Nghĩa Đan High school	20.790	106.049

Date	Gnomon	Shadow	Angle
21 March 2019	59.6 cm	22.6 cm	20.8 °

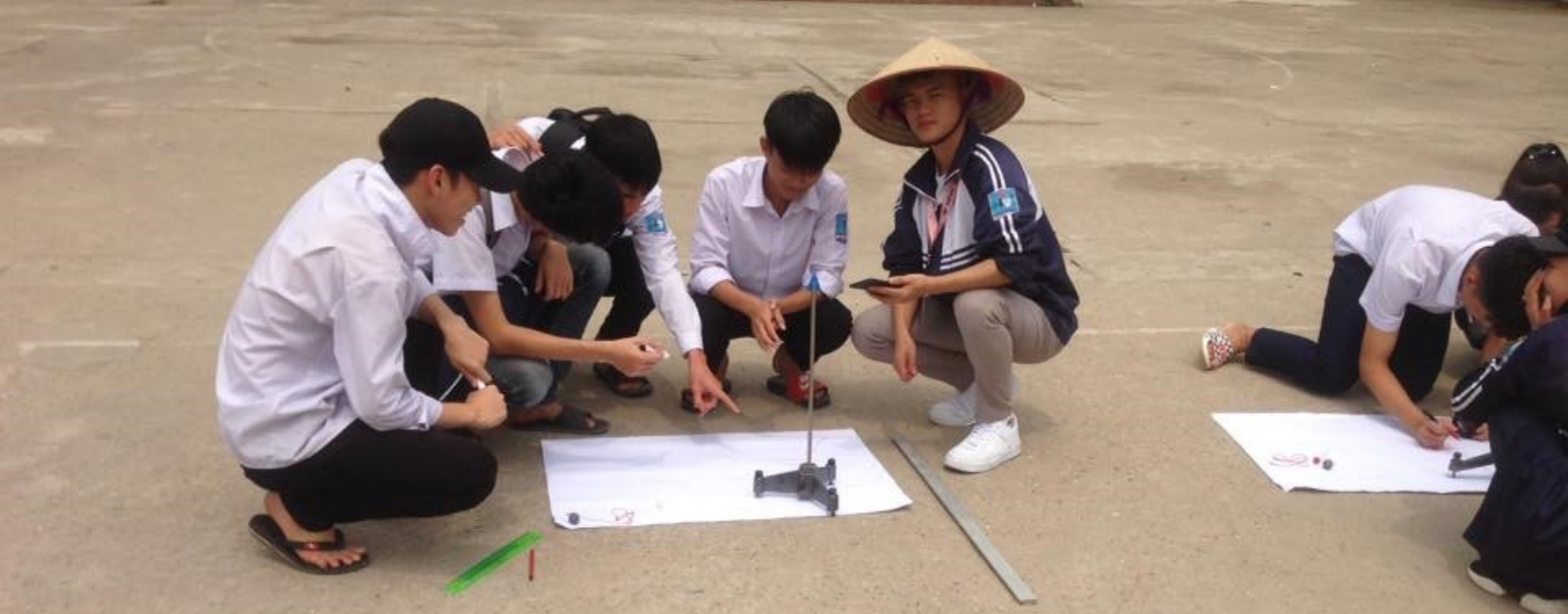
21/03/2019 (Vigo-Spain) Latitude: 42.201°

21/03/2019 (Toàn Thắng-Việt Nam) Latitude: 20.79°



Distance	Angle
circumference	360°
2379km	42.2° - 20.8°

$$\text{circumference} = \frac{360^\circ \times 2379\text{km}}{42.2^\circ - 20.8^\circ} = 40021 \text{ km}$$



# Toulouse, France

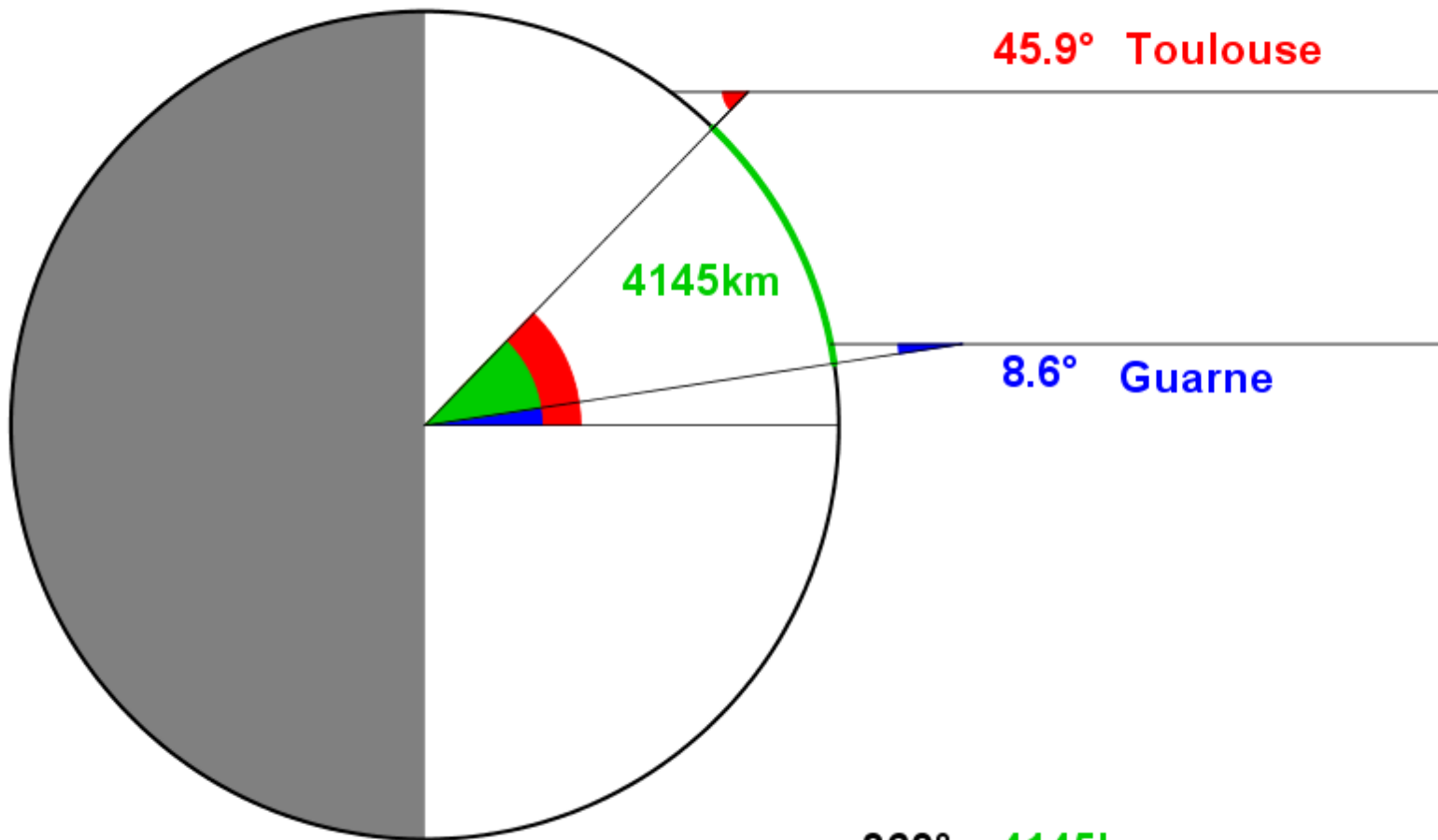


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Toulouse	France	Cité de l'Espace	43.587	1.493

Date	Gnomon	Shadow	Angle
14 March 2019	24.7 cm	25.5 cm	45.9 °

14/03/2019 (Toulouse-France) Latitude: 43.587°

14/03/2019 (Guarne-Colombia) Latitude: 6.274°




$$\text{circumference} = \frac{360^\circ \times 4145\text{km}}{45.9^\circ - 8.6^\circ} = 40005 \text{ km}$$

Distance	Angle
circumference	360°
4145km	45.9° - 8.6°



# Úbeda, Spain

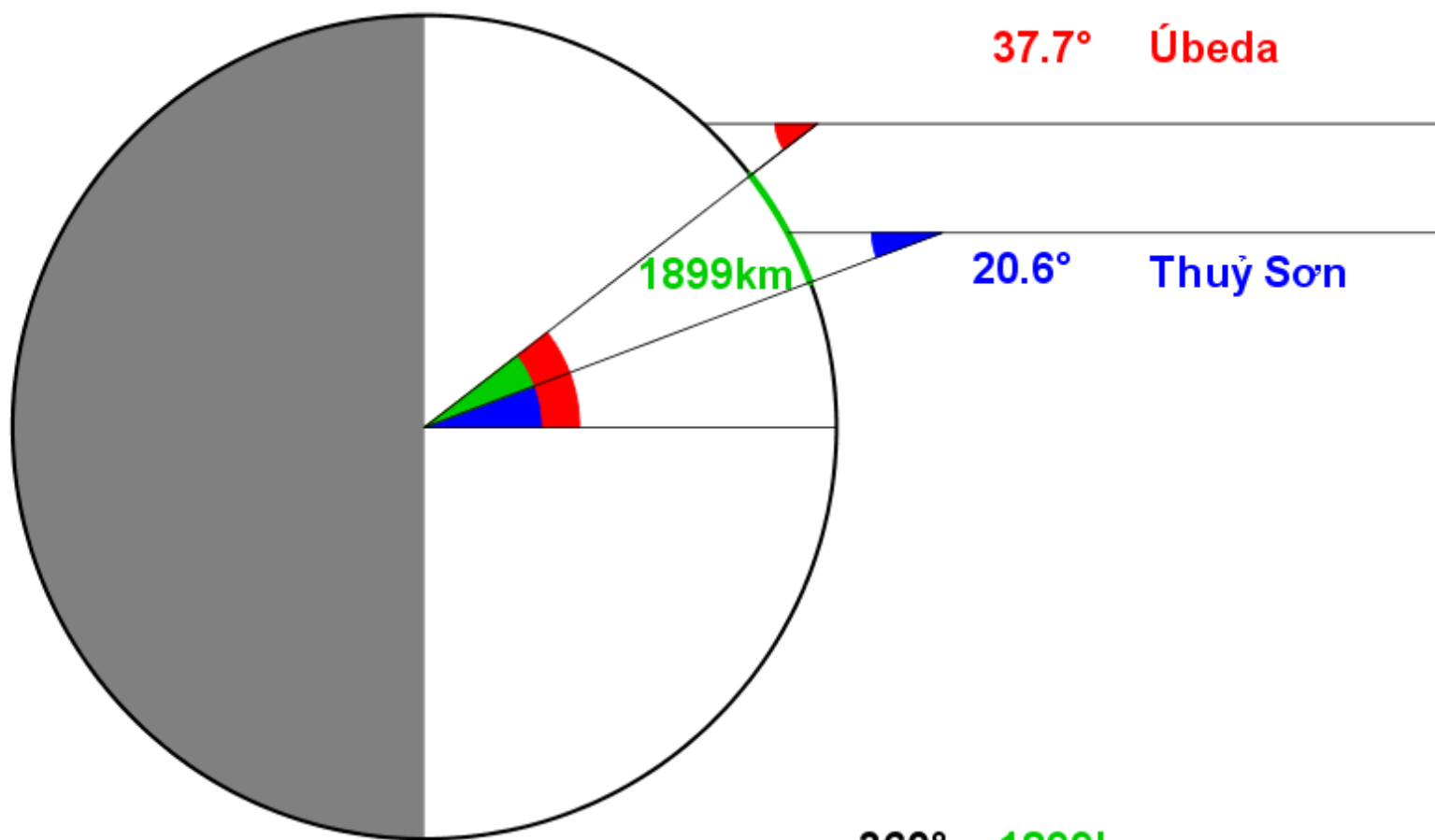


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Úbeda	Spain	Colegio Salesiano Santo Domingo Savio	38.017	-3.367

Date	Gnomon	Shadow	Angle
01 March 2019	79.2 cm	80.0 cm	45.3 °
08 March 2019	66.2 cm	61.5 cm	42.9 °
15 March 2019	119.9 cm	101.1 cm	40.1 °
20 March 2019	120.1 cm	93.4 cm	37.9 °
21 March 2019	119.9 cm	92.8 cm	37.7 °
22 March 2019	119.8 cm	90.6 cm	37.1 °

21/03/2019 (Úbeda-Spain) Latitude: 38.017°

21/03/2019 (Thủy Sơn-Việt Nam) Latitude: 20.926°



**37.7° Úbeda**  
**20.6° Thủy Sơn**

$$\text{circumference} = \frac{360^\circ \times 1899\text{km}}{37.7^\circ - 20.6^\circ} = 39979 \text{ km}$$

Distance	Angle
circumference	360°
1899km	37.7° - 20.6°





# Valencia, Colombia

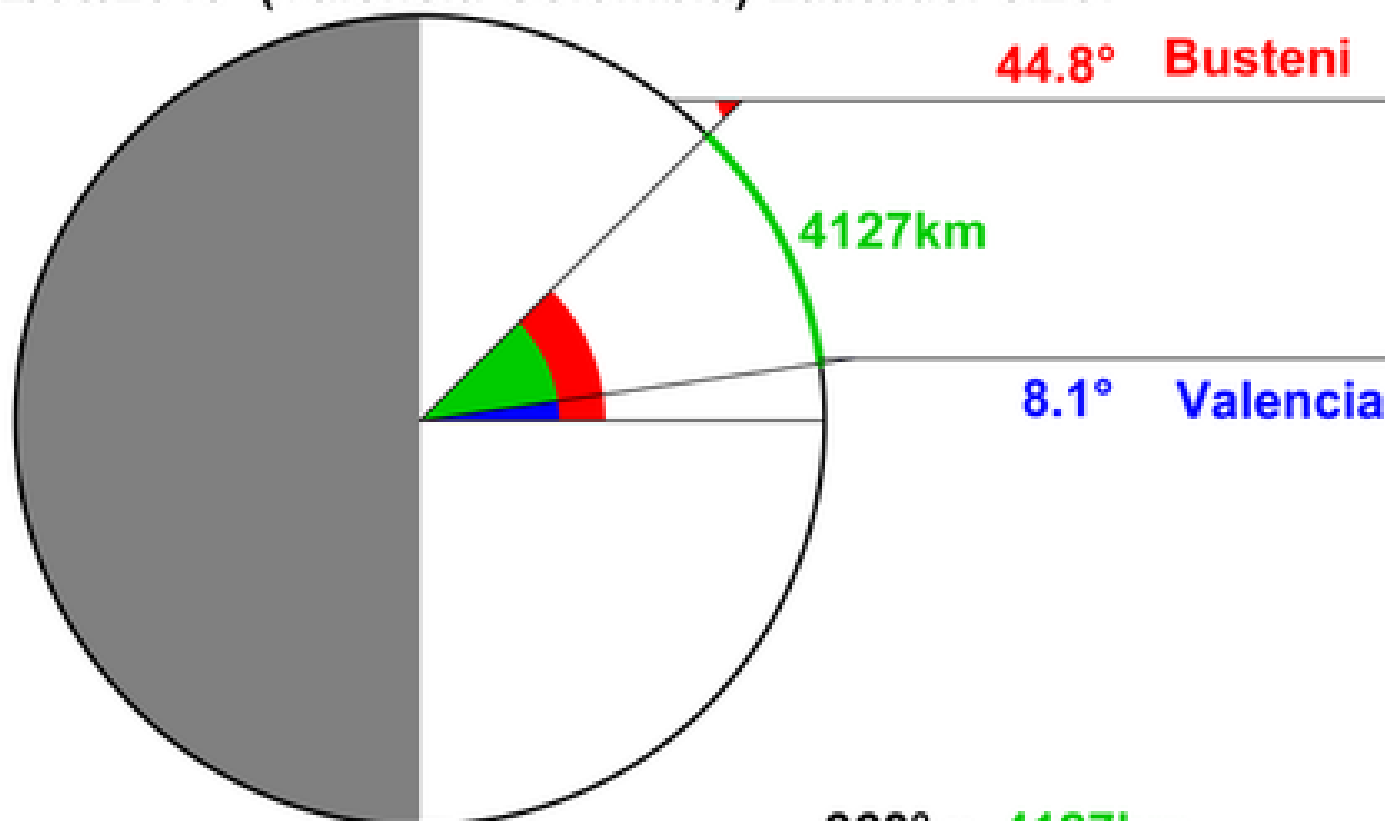


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Valencia	Colombia	Institución educativa A. Santos	8.267	-76.133

Date	Gnomon	Shadow	Angle
22 March 2019	107 cm	15.3 cm	8.1 °

22/03/2019 (Busteni-Romania) Latitude: 45.416°

22/03/2019 (Valencia-Colombia) Latitude: 8.267°



Distance	Angle
circumference	360°
4127km	44.8° - 8.1°

$$\text{circumference} = \frac{360^\circ \times 4127\text{km}}{44.8^\circ - 8.1^\circ} = 40483 \text{ km}$$



# Vigo, Spain

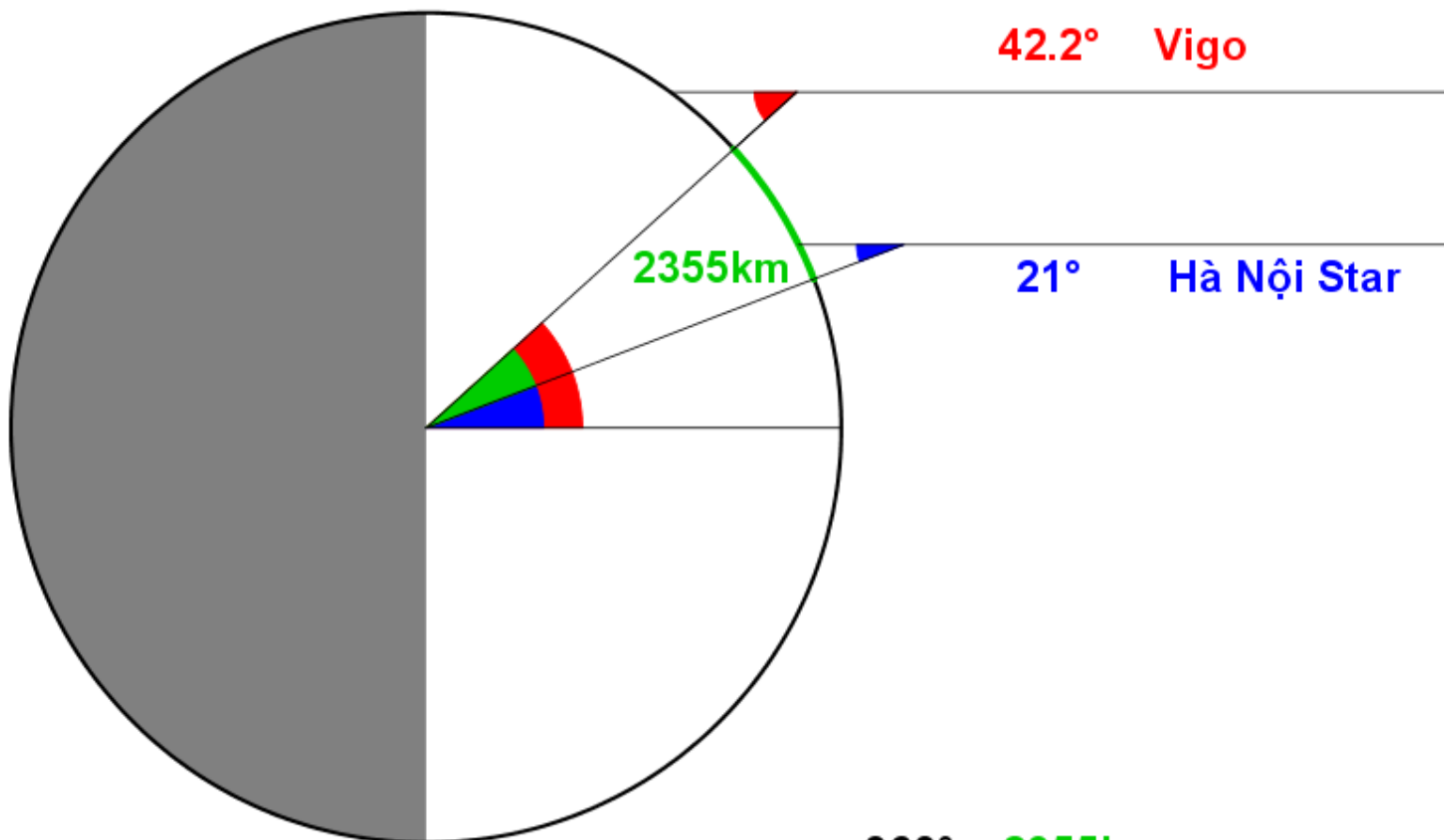


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Vigo	Spain	IES de Beade	42.201	-8.716

Date	Gnomon	Shadow	Angle
21 March 2019	96.2 cm	87.1 cm	42.2 °

21/03/2019 (Vigo-Spain) Latitude: 42.201°

21/03/2019 (Hà Nội Star-Việt Nam) Latitude: 21.005°



$$\text{circumference} = \frac{360^\circ \times 2355\text{km}}{42.2^\circ - 21^\circ} = 39991 \text{ km}$$

Distance	Angle
circumference	360°
2355km	42.2° - 21°



# Vinh, Việt Nam

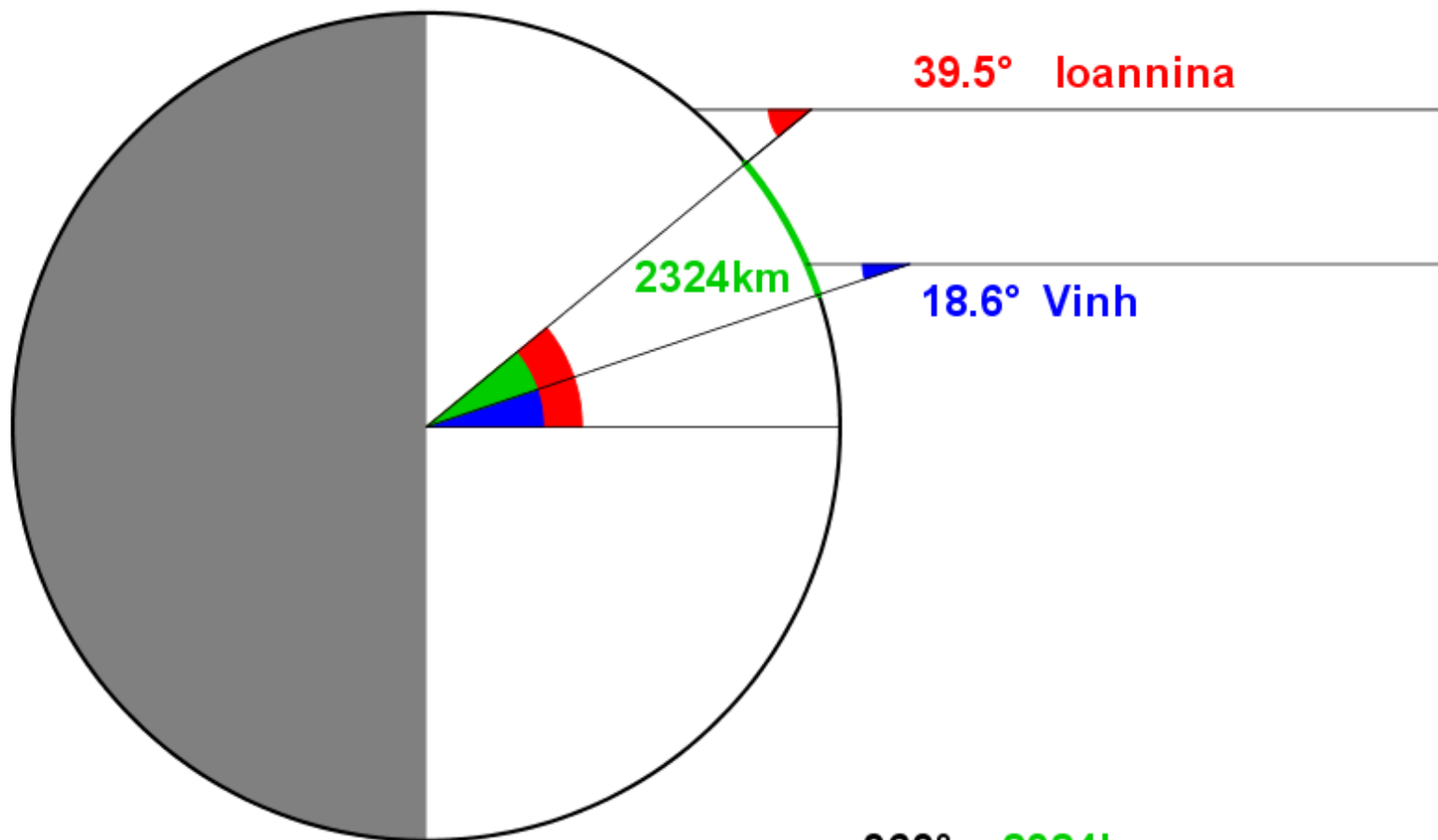


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Vinh	Việt Nam	THPT Dân tộc Nội trú số 2	18.748	105.690

Date	Gnomon	Shadow	Angle
21 March 2019	84 cm	28.2 cm	18.6 °

21/03/2019 (Ioannina-Greece) Latitude: 39.665°

21/03/2019 (Vinh-Việt Nam) Latitude: 18.748°



Distance	Angle
circumference	360°
2324km	39.5° - 18.6°

$$\text{circumference} = \frac{360^\circ \times 2324\text{km}}{39.5^\circ - 18.6^\circ} = 40031 \text{ km}$$



# Yamunanagar, India

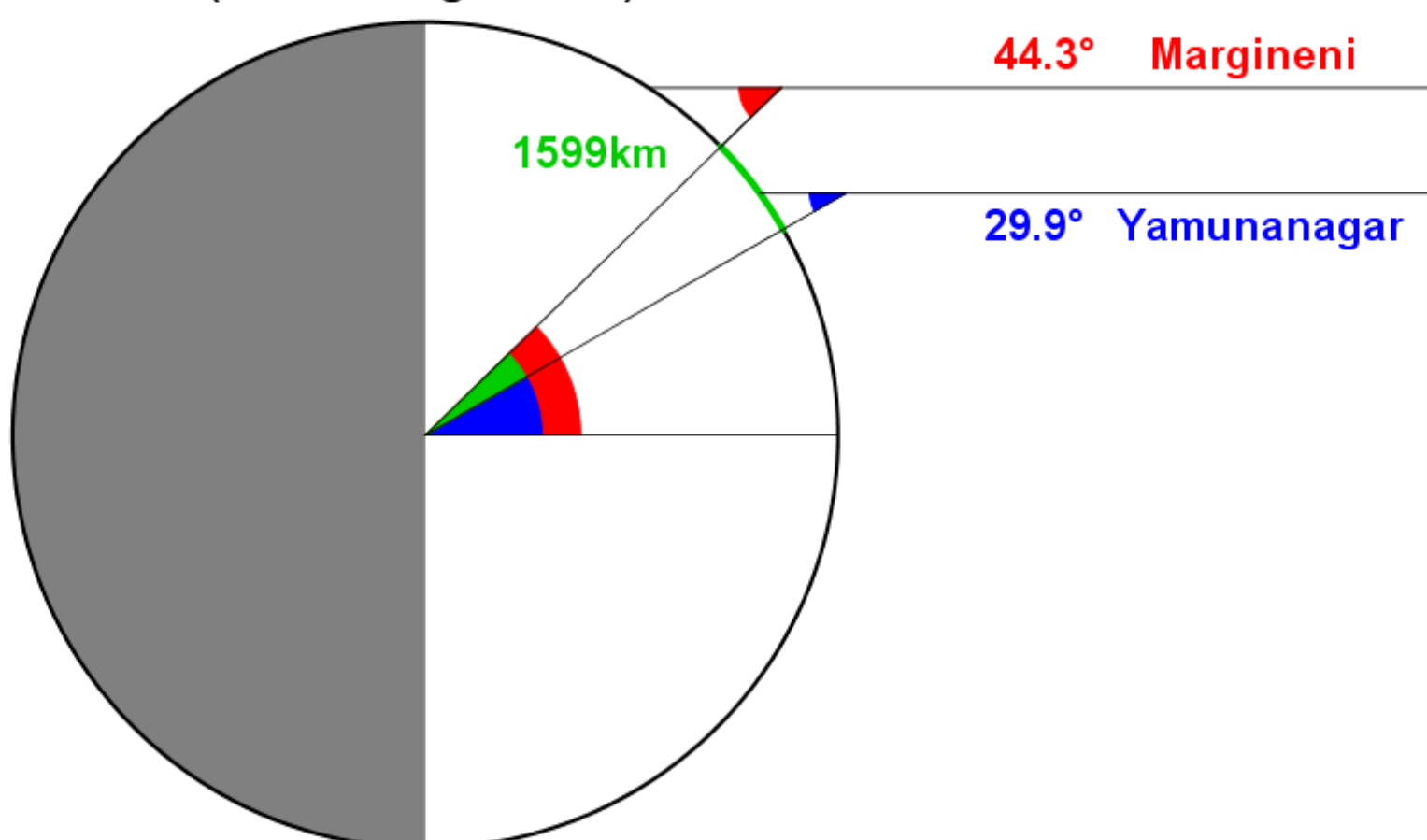


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Yamunanagar	India	CV Raman VIPNET Science Club	30.140	77.275

Date	Gnomon	Shadow	Angle
21 March 2019	28 cm	16.1 cm	29.9 °

21/03/2019 (Margineni-Romania) Latitude: 44.533°

21/03/2019 (Yamunanagar-India) Latitude: 30.14°



Distance	Angle
circumference	360°
1599km	44.3° - 29.9°

$$\text{circumference} = \frac{360^\circ \times 1599\text{km}}{44.3^\circ - 29.9^\circ} = 39975 \text{ km}$$





# Zagreb, Croatia

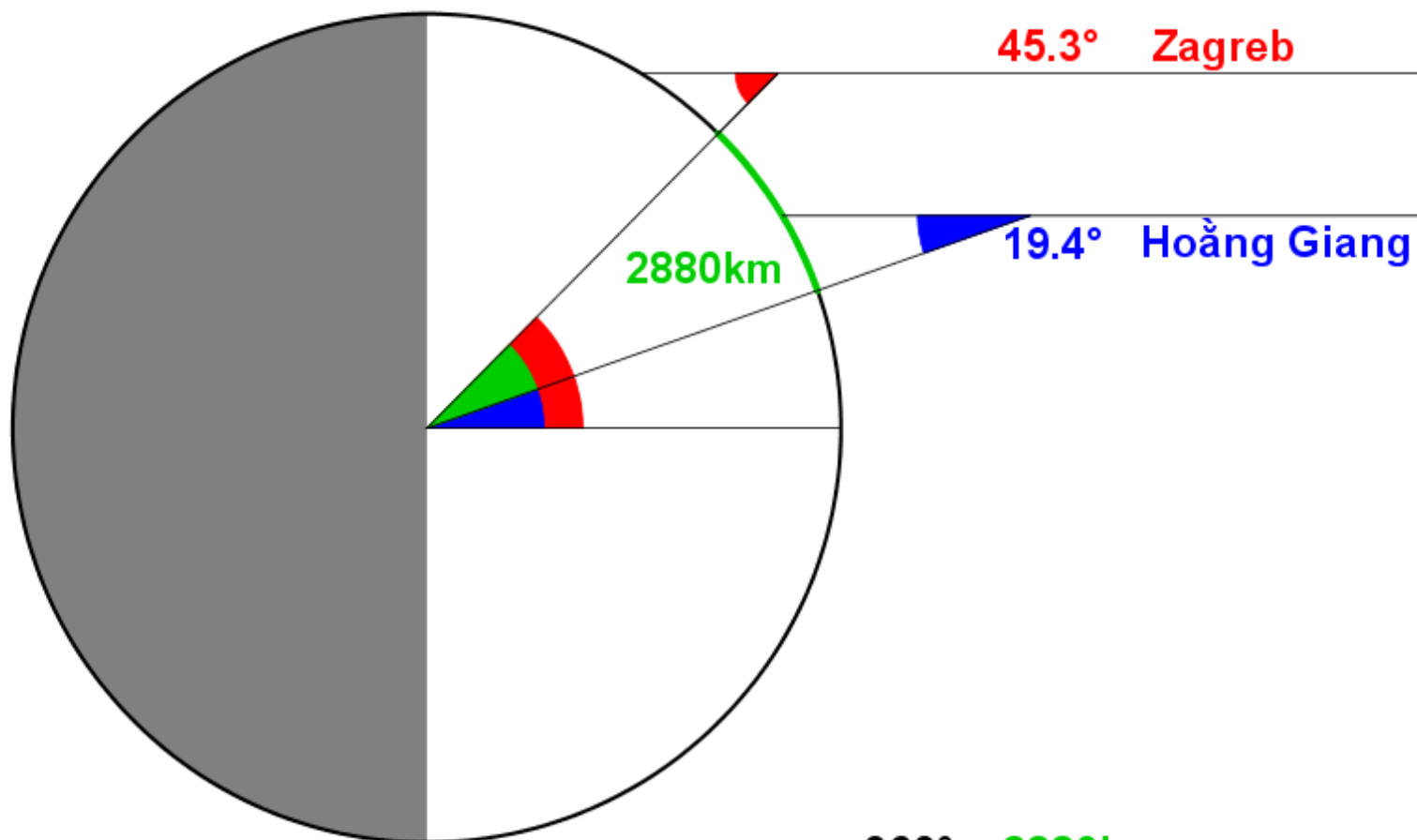


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Zagreb	Croatia	Elementary School Petar Zrinski	45.812	15.959

Date	Gnomon	Shadow	Angle
21 March 2019	100 cm	101 cm	45.3 °

21/03/2019 (Zagreb-Croatia) Latitude: 45.812°

21/03/2019 (Hoàng Giang-Việt Nam) Latitude: 19.886°



$$\text{circumference} = \frac{360^\circ \times 2880\text{km}}{45.3^\circ - 19.4^\circ} = 40031 \text{ km}$$

Distance	Angle
circumference	360°
2880km	45.3° - 19.4°



