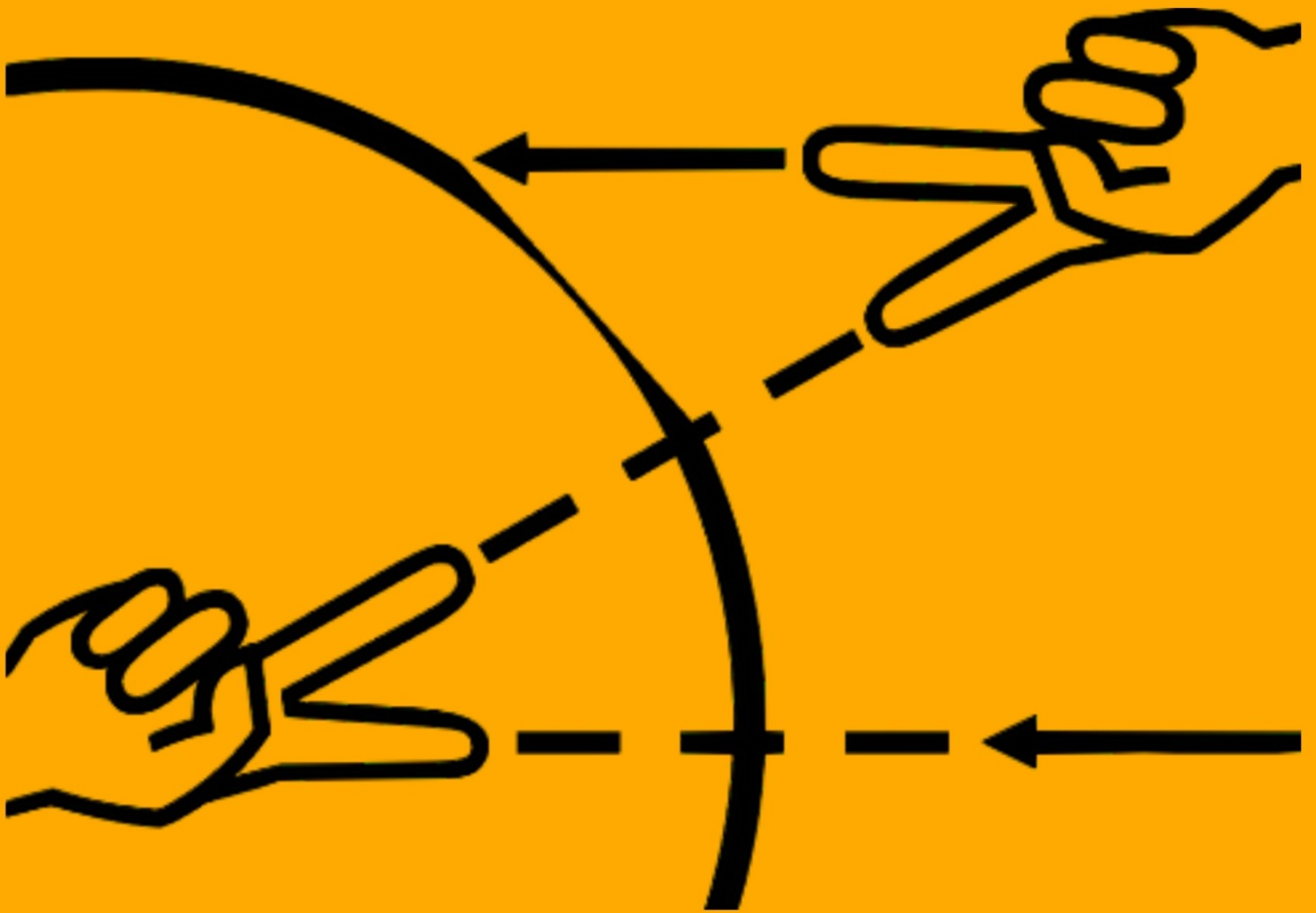


Eratosthenes



3 Continents

11 Countries

26 Schools

129 Measures

3 Continents

11 Countries

26 Schools

129 Measures

ARGENTINA (4)

Alta Gracia, Buenos Aires, Chivilcoy, Rio Cuarto

BRAZIL (3)

Piranguinho, Rio de Janeiro, Copacabana

COLOMBIA (1)

Guarne

ECUADOR (1)

Cayambe

FRANCE (1)

Lafrançaise

GREECE (6)

Aigio, Athens, Ilion, Petroupoli, Ioannina, Ioannina 7

INDIA (4)

Ghaziabad, Meerut, Tandi Nani, Yamunanagar

PUERTO RICO (1)

Bayamón

ROMANIA (3)

Băicoi, Busteni, Margineni

SPAIN (1)

Úbeda


VIETNAM (1)

Biên Hòa

Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Aigio	Greece	1st High School of Aigio	38.252	22.079
	Alta Gracia	Argentina	Fundación Caminos de Anisacate	-31.659	-64.417
	Athens	Greece	Experimental College Agion Anargyron	38.027	23.726
	Băicoi	Romania	Liceul Tehnologic "Constantin Cantacuzino"	45.033	25.850
	Bayamón	Puerto Rico	AECM Carribean University	18.383	-66.168
	Biên Hòa NQ	Vietnam	Ngo Quyen High School	10.955	106.826
	Buenos Aires	Argentina	ENS N° 1	-34.599	-58.395
	Busteni	Romania	Scoala Gimnaziala Sanatoriala	45.416	25.535
	Cayambe	Ecuador	Killa Ñan - Astronomía comunitaria	0.045	-78.145
	Chivilcoy	Argentina	Parque Cielos del Sur	-34.911	-60.014
	Ghaziabad	India	pvsClub,Vijay nagar	28.633	77.417
	Guarne	Colombia	Grupo Astrofánaticos	6.274	-75.447
	Ilion	Greece	11th Junior High School of Ilion	38.033	23.697
	Ioannina	Greece	Experimental College	39.655	20.846
	Ioannina	Greece	7th Junior High School	39.653	20.852
	Lafrançaise	France	Collège Antonin Perbosc	44.127	1.237
	Margineni	Romania	Secondary School Gh. Popescu	44.533	24.544
	Meerut	India	UPS Sisola Kalan Jani	28.982	77.568
	Petroupoli	Greece	4th Junior High School	38.036	23.674
	Piranguinho	Brazil	Universidade Federal de Itajubá	-22.411	-45.535
	Rio de Janeiro	Brazil	Forte de Copacabana	-22.967	-43.176
	Rio de Janeiro	Brazil	Centro Educacional Nosso Mundo	-22.890	-43.317
	Rio Cuarto	Argentina	Colegio Concordia	-33.149	-64.351
	Tandi Nani	India	Govt senior secondary school Tandí Nani	23.346	92.483
	Úbeda	Spain	Colegio Salesiano Santo Domingo Savio	38.017	-3.367
	Yamunanagar	India	C V Raman Science Club	30.133	77.283

Aigio, Greece

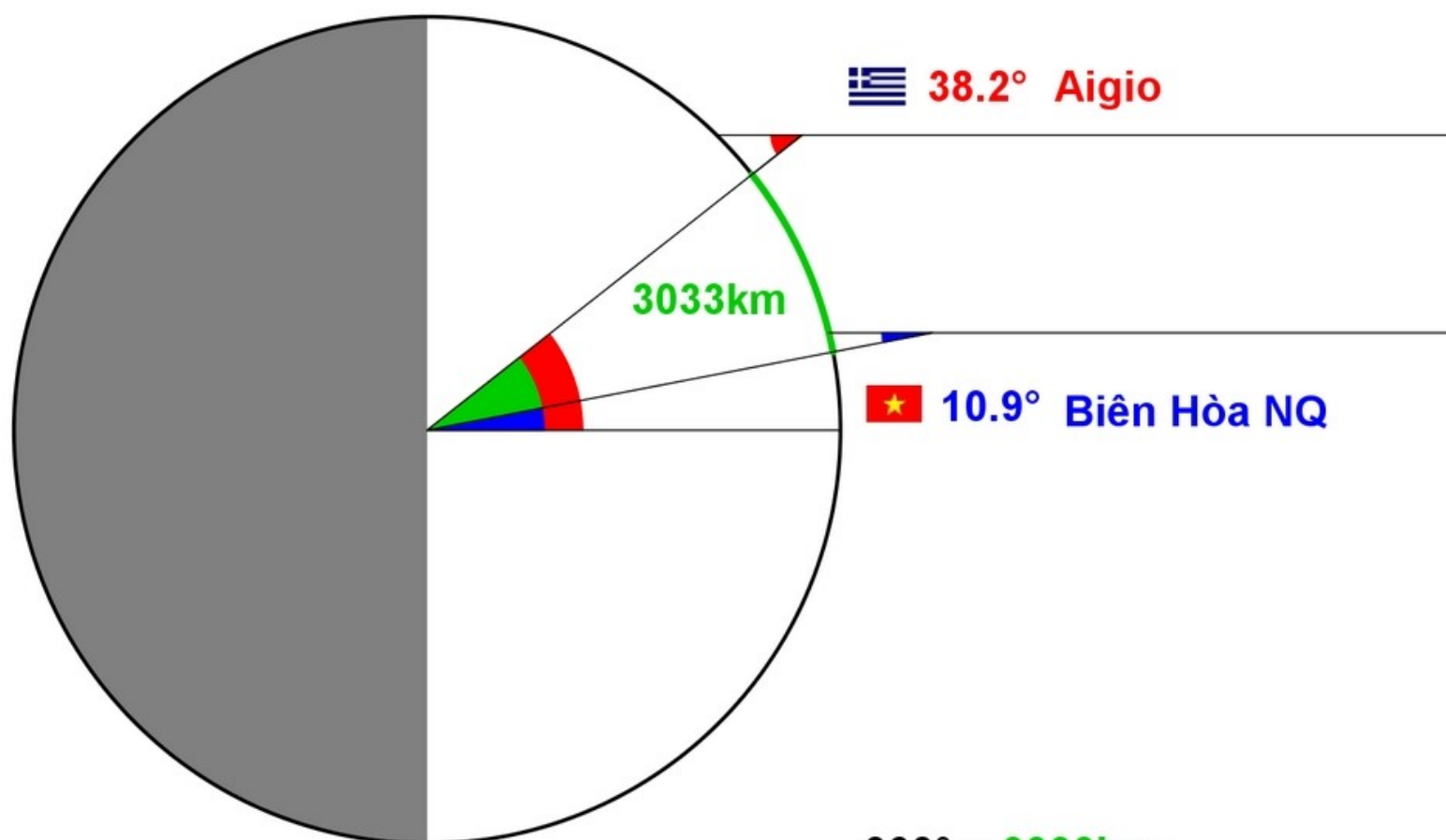


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Aigio	Greece	1st High School of Aigio	38.252	22.079

Date	Gnomon	Shadow	Angle
20 March 2020	16.5cm	13.0cm	38.2°
21 March 2020	28.0cm	23.0cm	39.4°
24 March 2020	33cm	24cm	36°
31 March 2020	46.8cm	29.5cm	32.2°

20/03/2020 (Aigio-Greece) Latitude: 38.252°

20/03/2020 (Biên Hòa NQ-Vietnam) Latitude: 10.955°



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

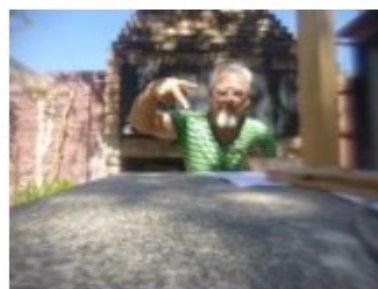
$$\text{circumference} = \frac{360^\circ \times 3033\text{km}}{38.2^\circ - 10.9^\circ} = 39996 \text{ km}$$



46.8 cm

29.5 cm

Alta Gracia, Argentina

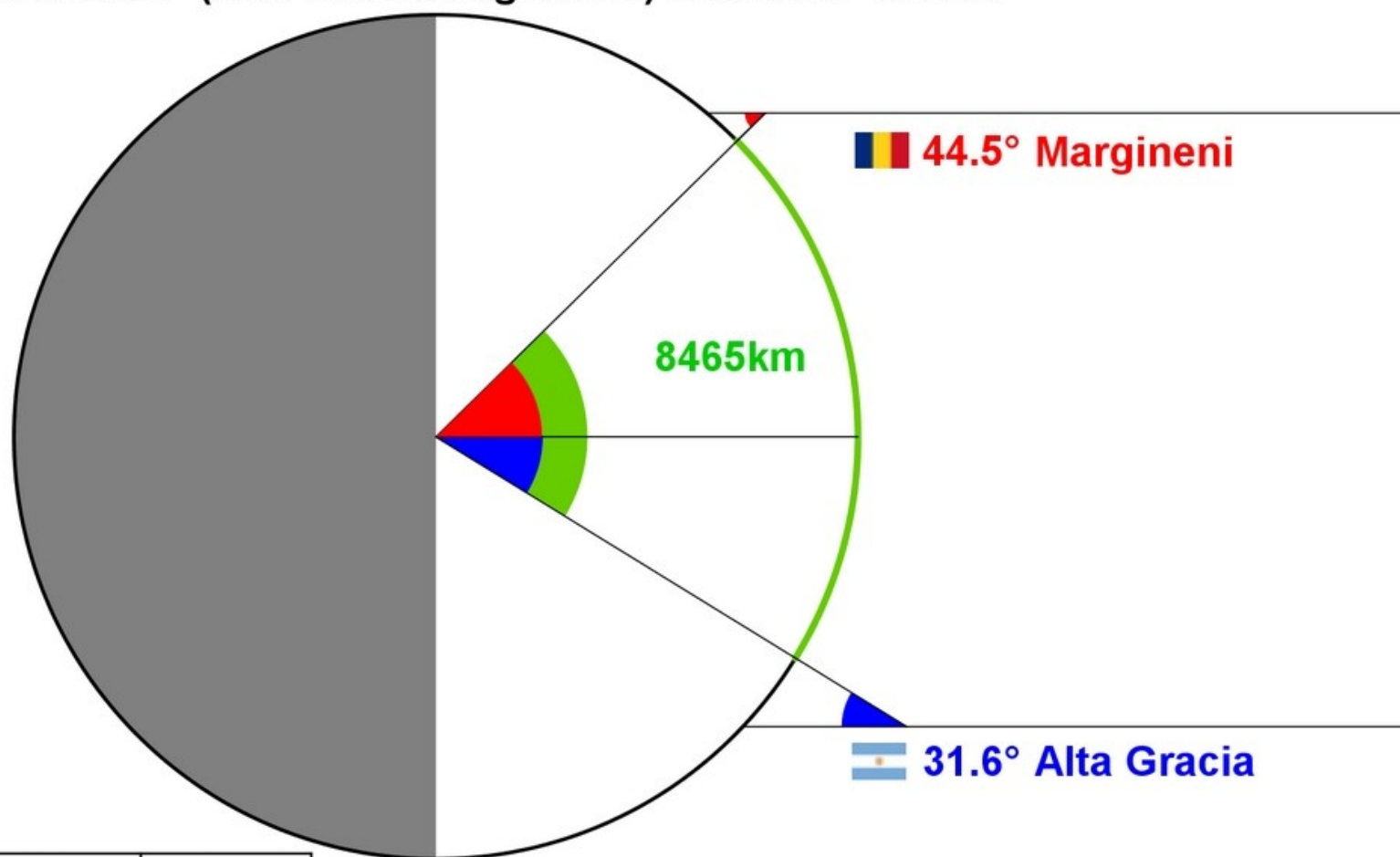


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Alta Gracia	Argentina	Fundación Caminos de Anisacate	-31.659	-64.417

Date	Gnomon	Shadow	Angle
19 March 2020	26.0cm	-15.5cm	-30.8°
20 March 2020	26.0cm	-15.9cm	-31.4°
21 March 2020	26.0cm	-16.0cm	-31.6°
22 March 2020	26cm	-16cm	-31.7°
23 March 2020	26cm	-16.5cm	-32.4°
24 March 2020	27cm	-17cm	-32.2°
26 March 2020	26cm	-18.4cm	-35.3°
27 March 2020	27.4cm	-18.5cm	-34°
29 March 2020	25cm	-18cm	-35.8°

21/03/2020 (Margineni-Romania) Latitude: 44.533°

21/03/2020 (Alta Gracia-Argentina) Latitude: -31.659°



 **44.5° Margineni**

8465km

 **31.6° Alta Gracia**

$$\text{circumference} = \frac{360^\circ \times 8465\text{km}}{44.5^\circ + 31.6^\circ} = 40045 \text{ km}$$

Distance	Angle
circumference	360°
8465km	44.5° + 31.6°



Athens, Greece

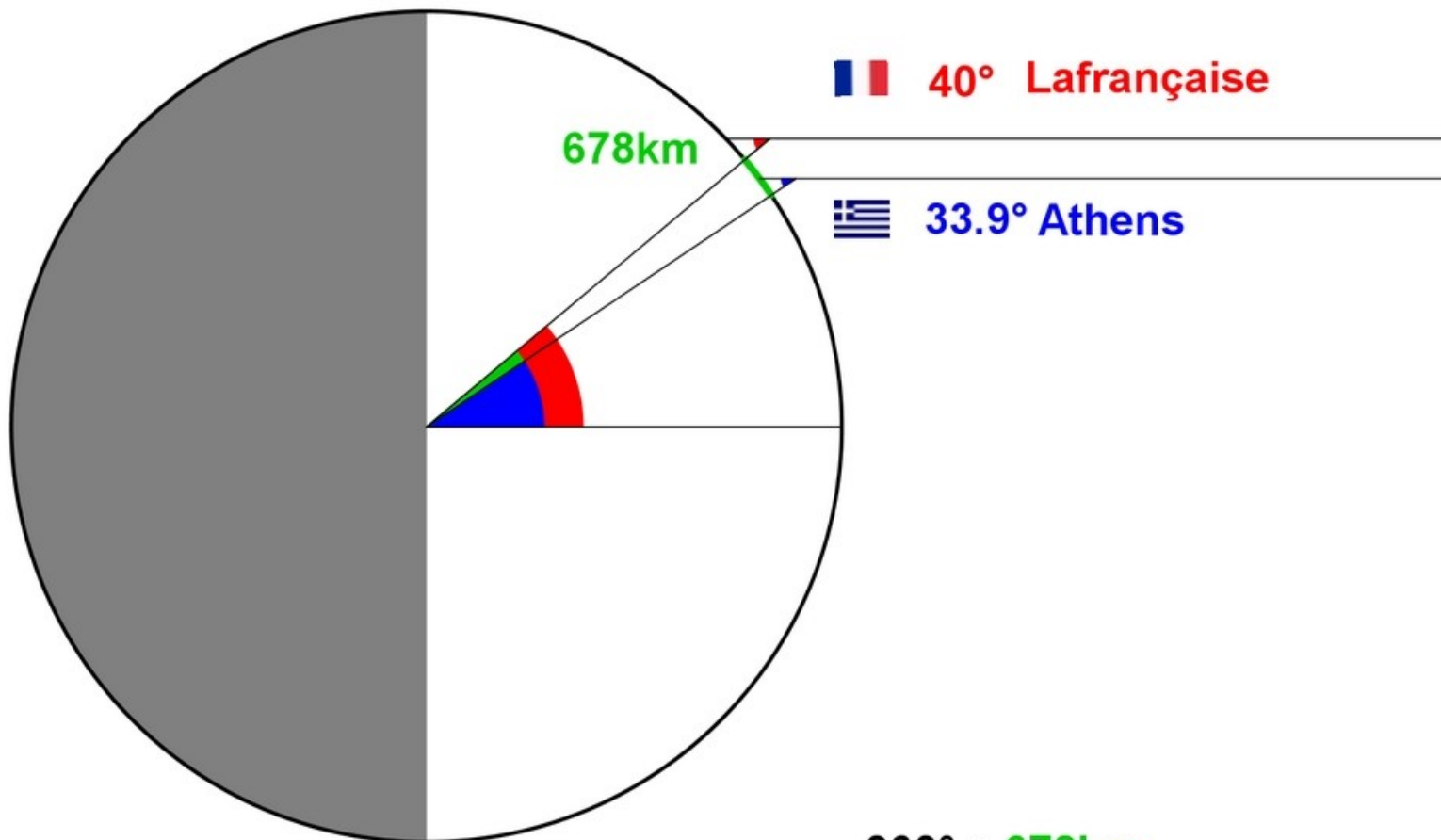


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Athens	Greece	Experimental College Agion Anargyron	38.027	23.726

Date	Gnomon	Shadow	Angle
30 March 2020	30.5cm	20.5cm	33.9°
31 March 2020	44.5cm	29.5cm	33.5°

30/03/2020 (Lafrançaise-France) Latitude: 44.127°

30/03/2020 (Athens-Greece) Latitude: 38.027°



Distance	Angle
circumference	360°
678km	40° - 33.9°

$$\text{circumference} = \frac{360^\circ \times 678\text{km}}{40^\circ - 33.9^\circ} = 40013 \text{ km}$$



Băicoi, Romania

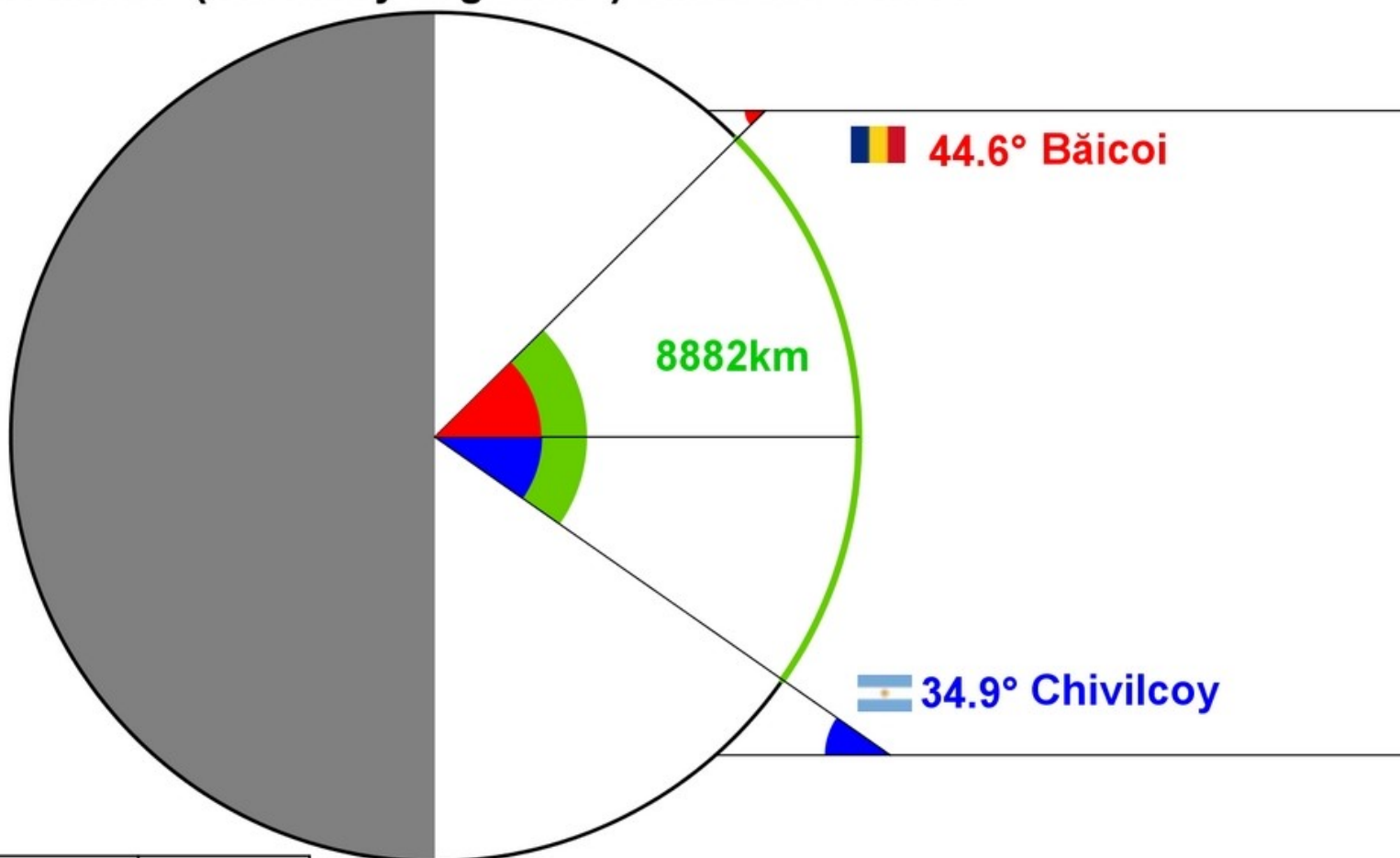


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Băicoi	Romania	Liceul Tehnologic "Constantin Cantacuzino"	45.033	25.850

Date	Gnomon	Shadow	Angle
20 March 2020	77.0cm	76.0cm	44.6°

20/03/2020 (Băicoi-Romania) Latitude: 45.033°

20/03/2020 (Chivilcoy-Argentina) Latitude: -34.911°



Distance	Angle
circumference	360°
8882km	44.6° + 34.9°

$$\text{circumference} = \frac{360^\circ \times 8882\text{km}}{44.6^\circ + 34.9^\circ} = 40220 \text{ km}$$



Bayamón, Puerto Rico

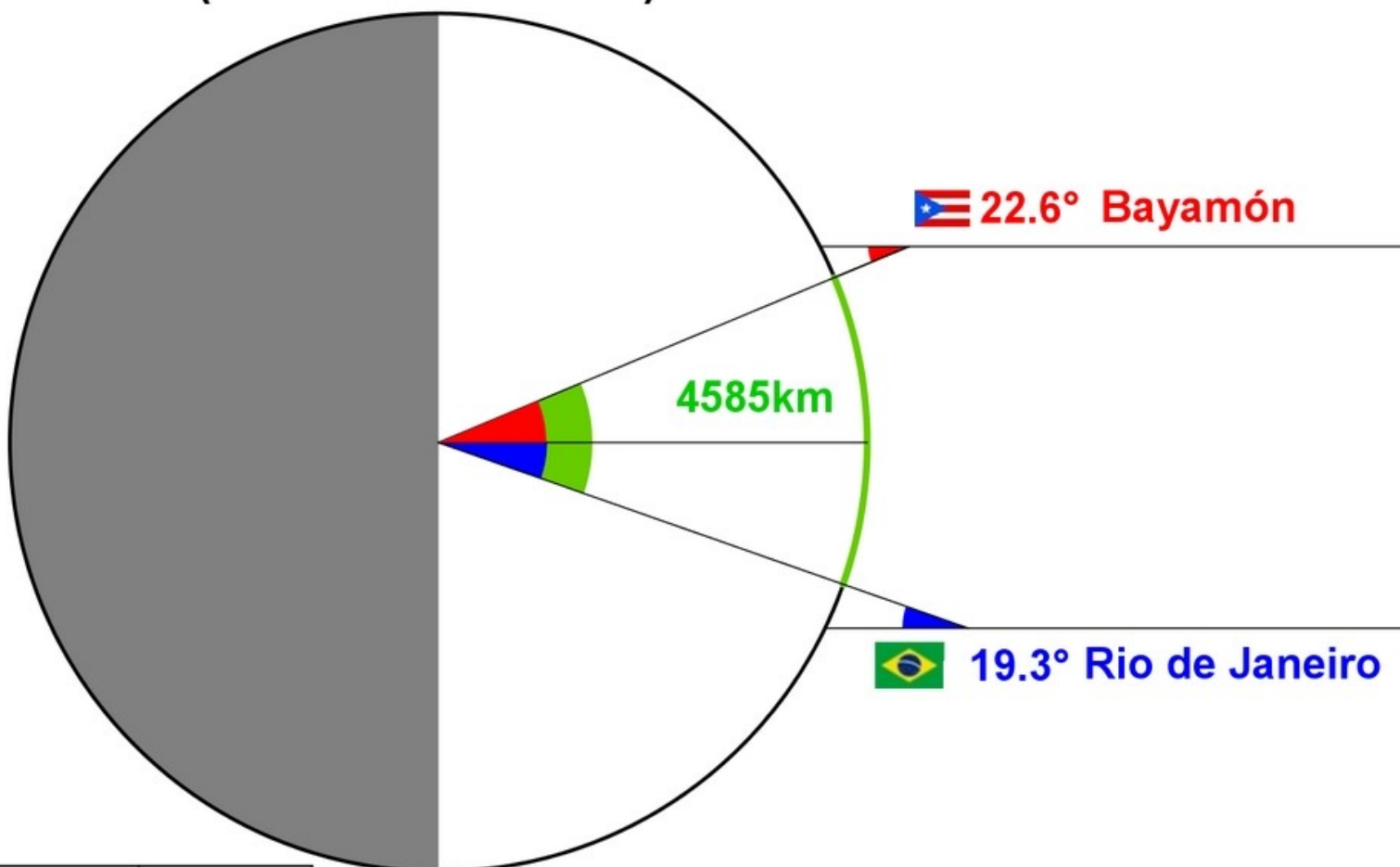


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Bayamón	Puerto Rico	AECM Carribbean University	18.383	-66.168

Date	Gnomon	Shadow	Angle
13 March 2020	60.0cm	25.0cm	22.6°

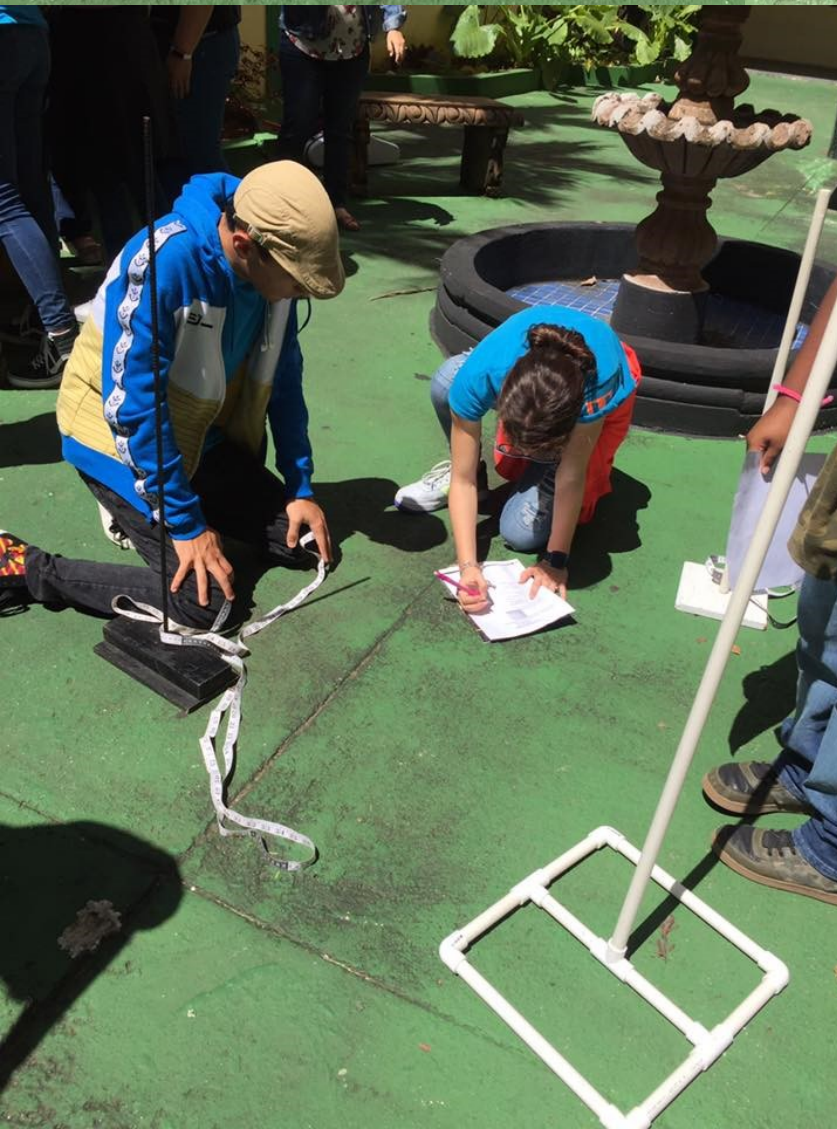
13/03/2020 (Bayamón-Puerto Rico) Latitude: 18.383°

13/03/2020 (Rio de Janeiro-Brazil) Latitude: -22.89°

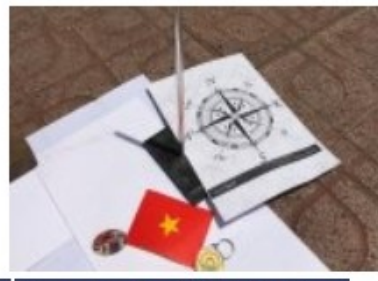


Distance	Angle
circumference	360°
4585km	22.6°+19.3°

$$\text{circumference} = \frac{360^\circ \times 4585\text{km}}{22.6^\circ + 19.3^\circ} = 39394 \text{ km}$$



Biên Hòa NQ, Vietnam

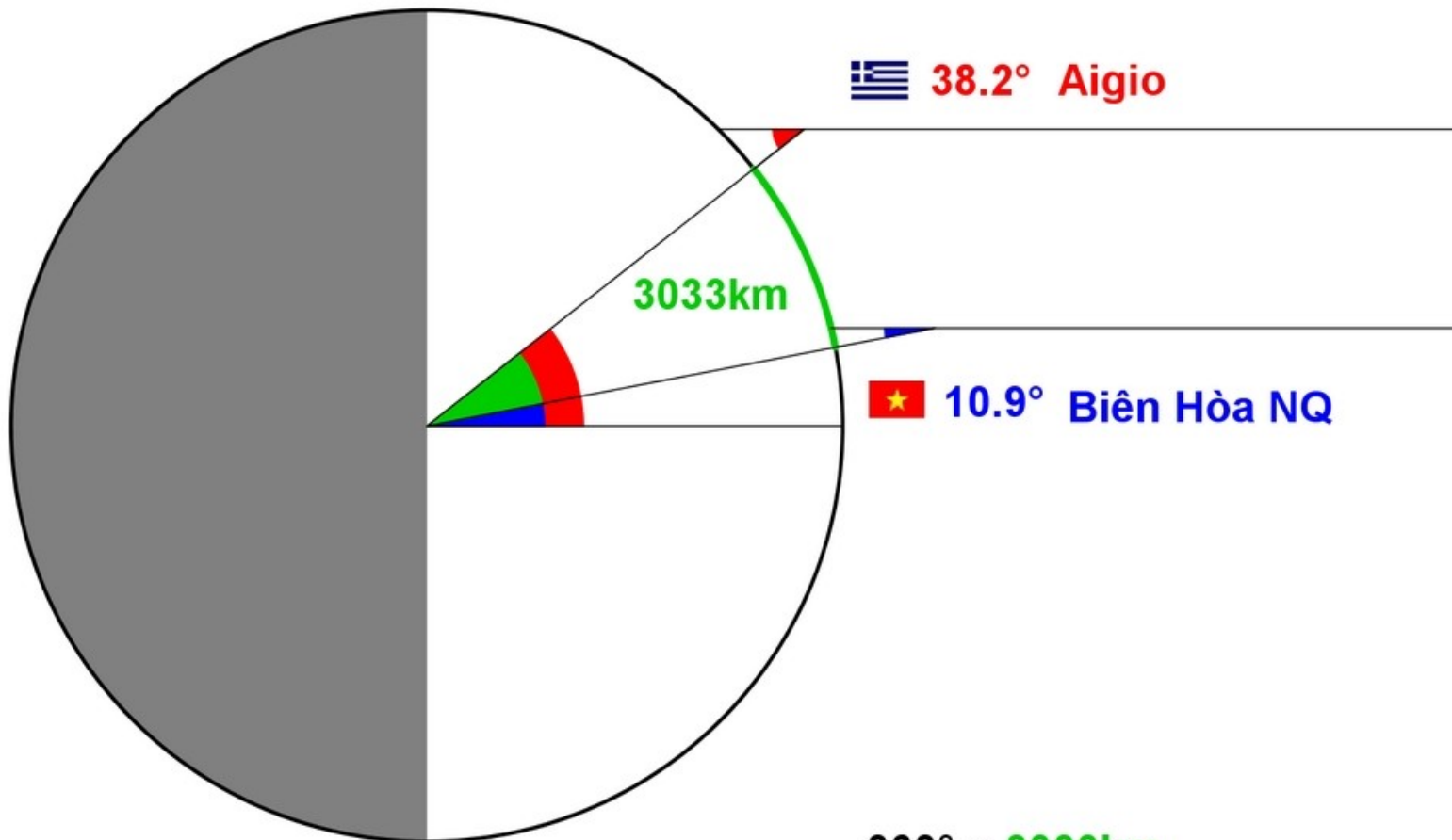


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Biên Hòa NQ	Vietnam	Ngo Quyen High School	10.955	106.826

Date	Gnomon	Shadow	Angle
20 March 2020	51.8cm	10.0cm	10.9°

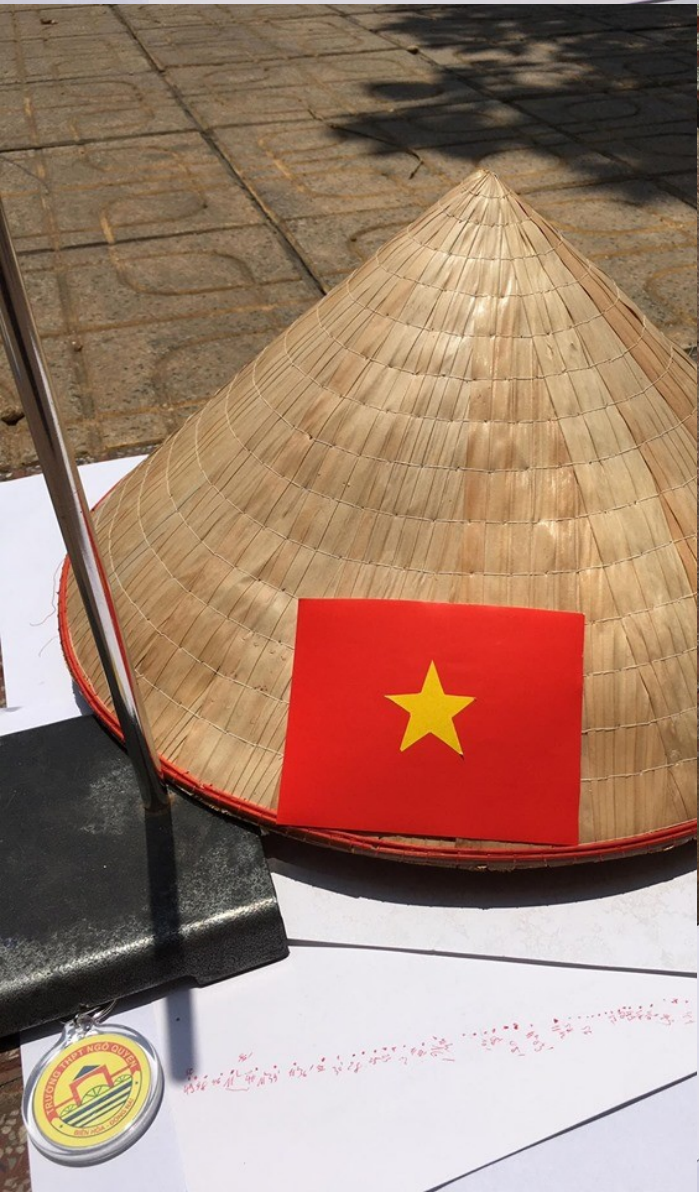
20/03/2020 (Aigio-Greece) Latitude: 38.252°

20/03/2020 (Biên Hòa NQ-Vietnam) Latitude: 10.955°




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

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



Buenos Aires, Argentina

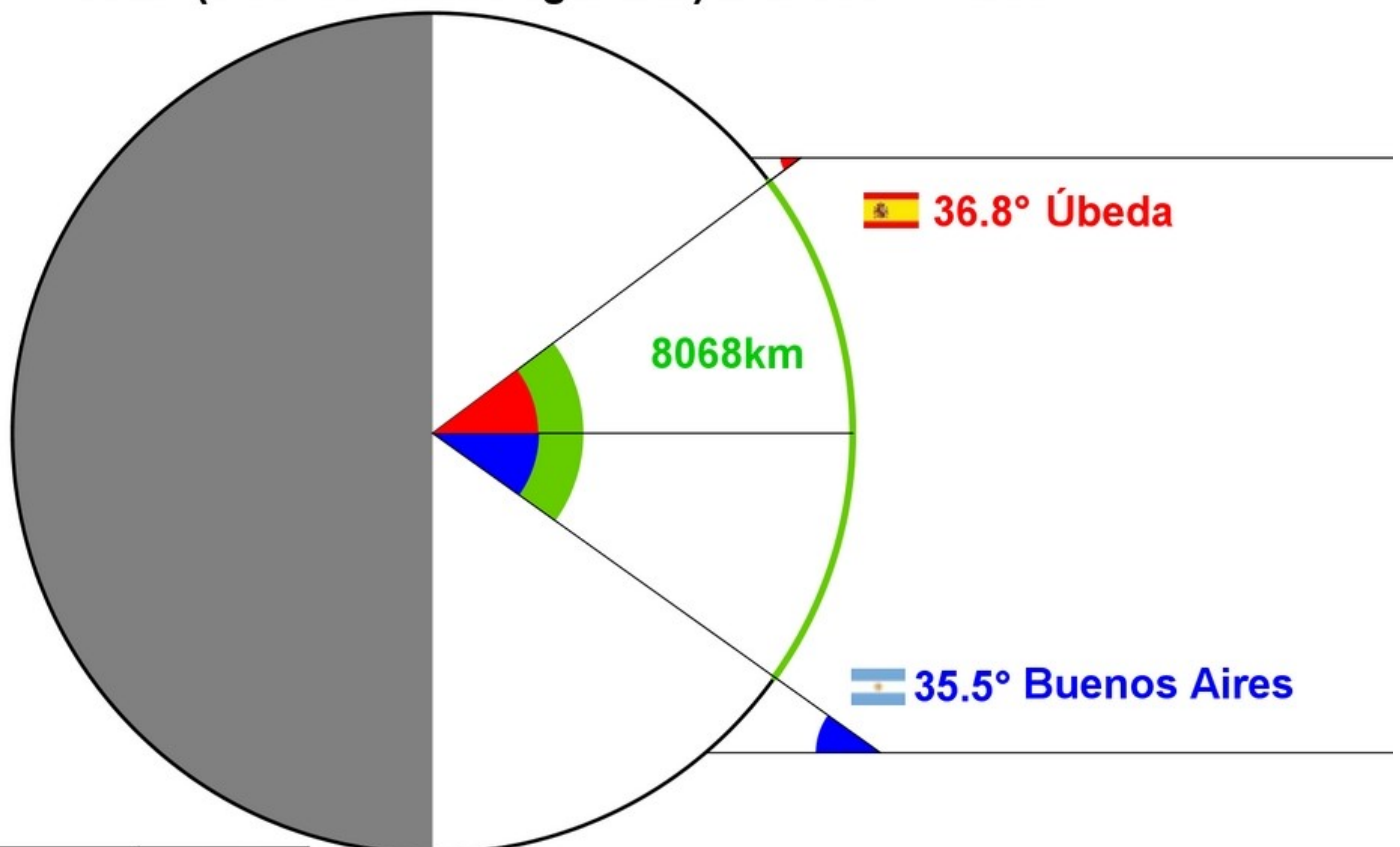


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Buenos Aires	Argentina	ENS N° 1	-34.599	-58.395

Date	Gnomon	Shadow	Angle
02 March 2020	8.0cm	-4.7cm	-30.4°
04 March 2020	8.0cm	-5.0cm	-32.0°
05 March 2020	8.0cm	-4.3cm	-28.3°
06 March 2020	8cm	-3.8cm	-25.4°
10 March 2020	8.0cm	-4.0cm	-26.6°
12 March 2020	8.0cm	-6.3cm	-38.2°
13 March 2020	8cm	-4cm	-26.6°
20 March 2020	8.0cm	-5.7cm	-35.5°
21 March 2020	8.0cm	-3.4cm	-23.0°
23 March 2020	8.0cm	-3.5cm	-23.6°
24 March 2020	8.0cm	-4.5cm	-29.4°
25 March 2020	8cm	-9cm	-48.4°
26 March 2020	8cm	-6.5cm	-39.1°
28 March 2020	8cm	-6.8cm	-40.4°
29 March 2020	8cm	-6cm	-36.9°
30 March 2020	8cm	-7.5cm	-43.2°

20/03/2020 (Úbeda-Spain) Latitude: 38.017°

20/03/2020 (Buenos Aires-Argentina) Latitude: -34.599°



Distance	Angle
circumference	360°
8068km	36.8°+35.5°

$$\text{circumference} = \frac{360^\circ \times 8068\text{km}}{36.8^\circ + 35.5^\circ} = 40173 \text{ km}$$



Busteni, Romania

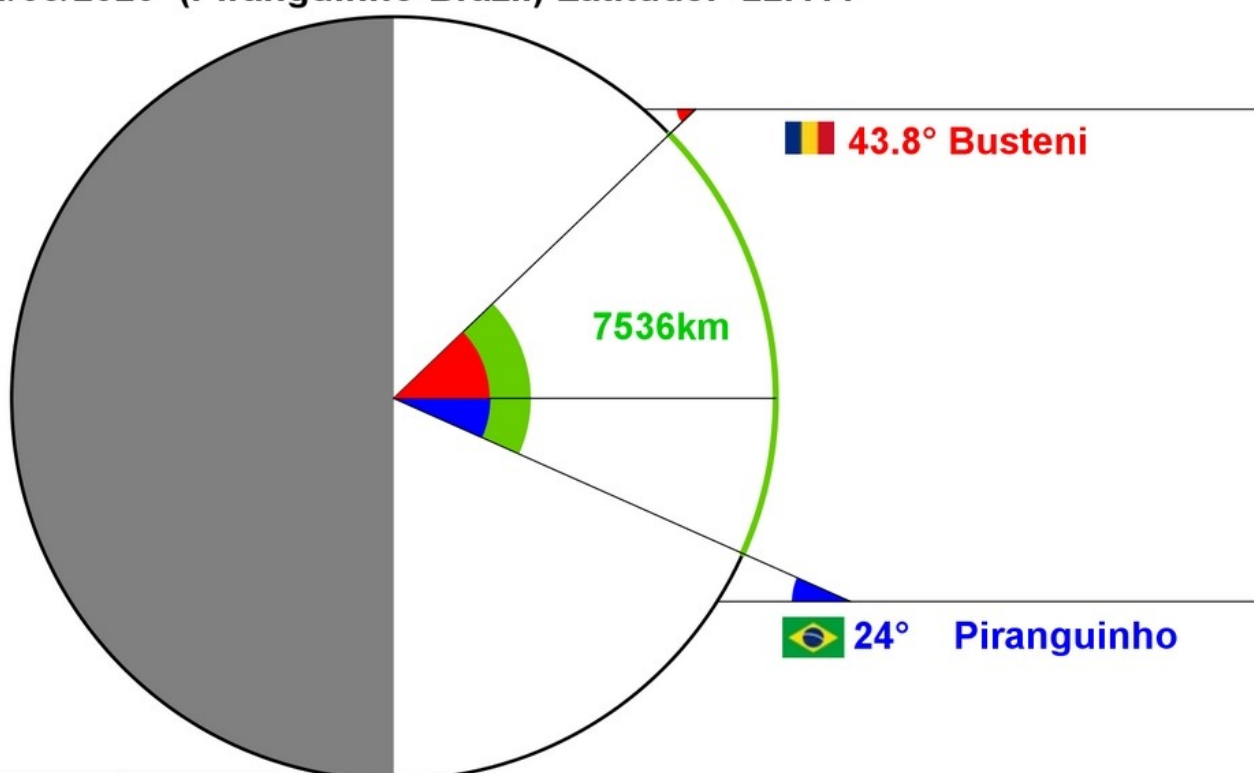


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Busteni	Romania	Scoala Gimnaziala Sanatoriala	45.416	25.535

Date	Gnomon	Shadow	Angle
02 March 2020	50.0cm	65.0cm	52.4°
03 March 2020	50.0cm	64.1cm	52.0°
04 March 2020	50.0cm	63.2cm	51.7°
10 March 2020	50cm	58.1cm	49.3°
11 March 2020	68.9cm	79.0cm	48.9°
14 March 2020	100cm	109.9cm	47.7°
18 March 2010	100.0cm	103.9cm	46.1°
19 March 2020	100.0cm	102.4cm	45.7°
20 March 2020	100.0cm	101.0cm	45.3°
21 March 2020	100.0cm	99.6cm	44.9°
23 March 2020	186.0cm	180.0cm	44.1°
24 March 2020	47cm	45cm	43.8°
25 March 2020	79.7cm	75cm	43.3°
26 March 2020	17.2cm	16cm	42.9°
27 March 2020	32.8cm	30cm	42.4°
28 March 2020	88.7cm	80cm	42°
30 March 2020	22.8cm	20cm	41.3°
31 March 2020	23.1cm	20cm	40.9°

24/03/2020 (Busteni-Romania) Latitude: 45.416°

24/03/2020 (Piranguinho-Brazil) Latitude: -22.411°



Distance	Angle
circumference	360°
7536km	43.8° + 24°

$$\text{circumference} = \frac{360^\circ \times 7536\text{km}}{43.8^\circ + 24^\circ} = 40014 \text{ km}$$



Cayambe, Ecuador

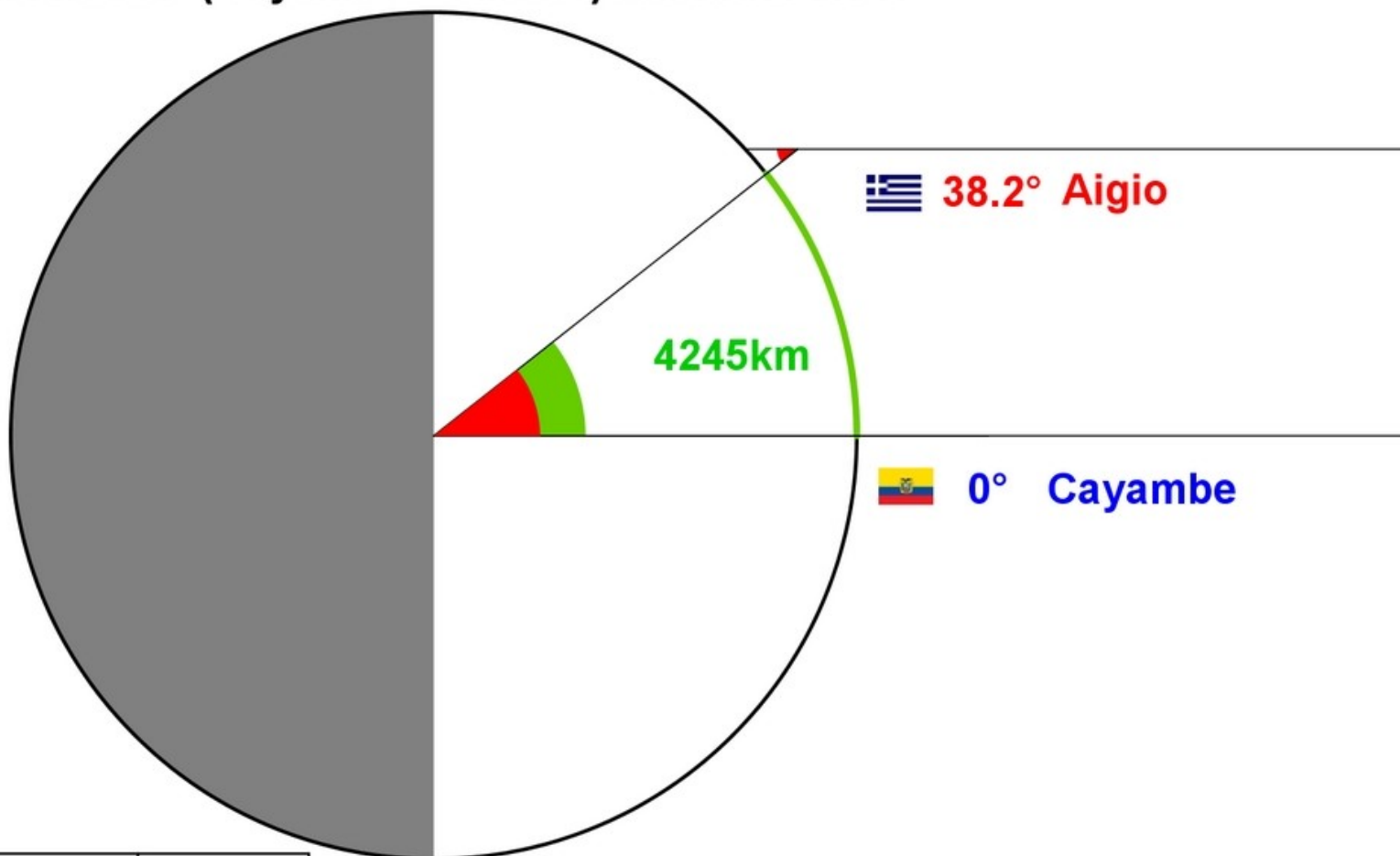


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Cayambe	Ecuador	Killa Ñan - Astronomía comunitaria	0.045	-78.145

Date	Gnomon	Shadow	Angle
20 March 2020	10.0cm	0.0cm	0.0°

20/03/2020 (Aigio-Greece) Latitude: 38.252°

20/03/2020 (Cayambe-Ecuador) Latitude: 0.045°



Distance	Angle
circumference	360°
4245km	38.2°+0°

$$\text{circumference} = \frac{360^\circ \times 4245\text{km}}{38.2^\circ + 0^\circ} = 40005 \text{ km}$$



Chivilcoy, Argentina

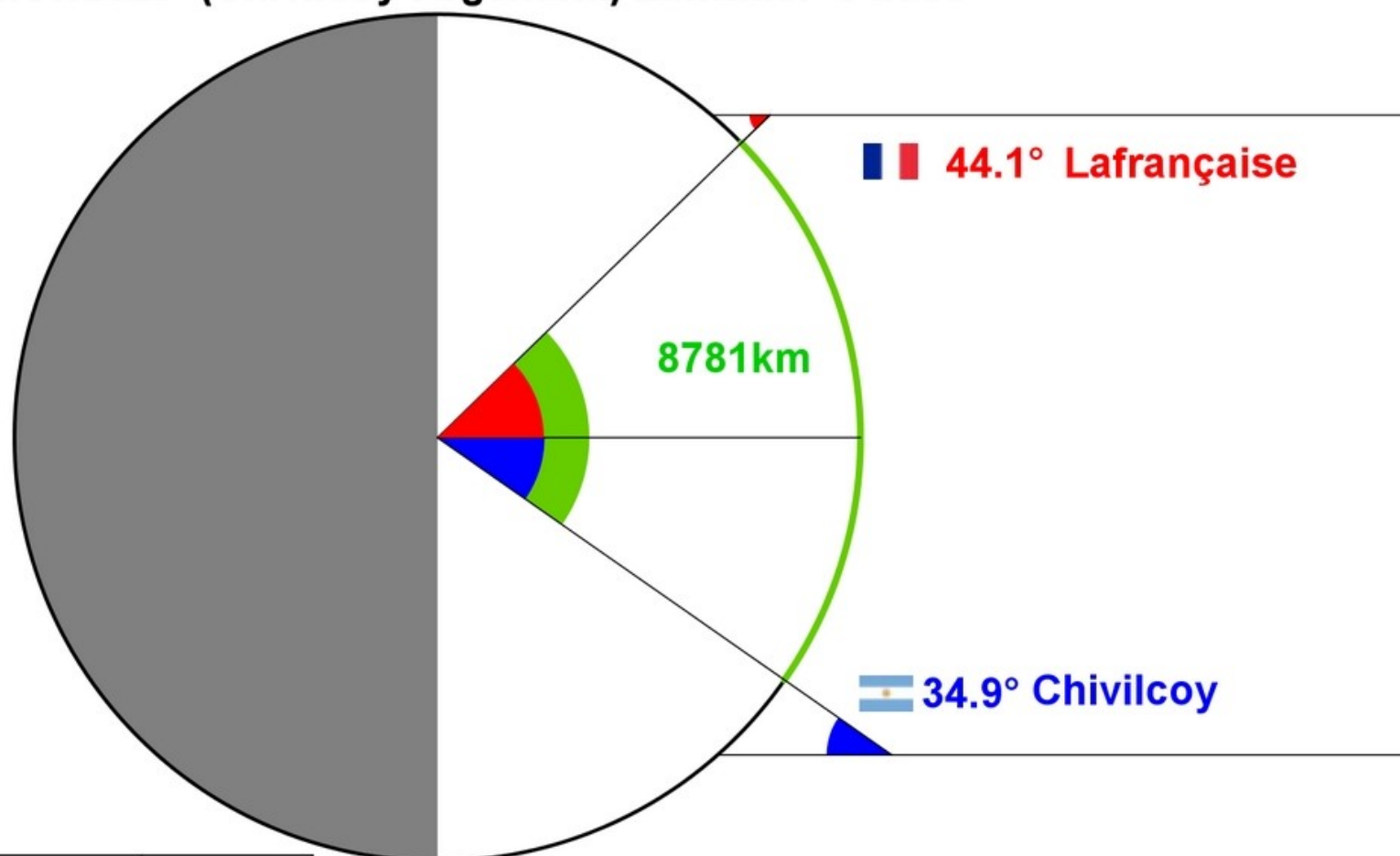


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Chivilcoy	Argentina	Parque Cielos del Sur	-34.911	-60.014

Date	Gnomon	Shadow	Angle
20 March 2020	35.0cm	-24.4cm	-34.9°
24 March 2020	32cm	-23.8cm	-36.6°
27 March 2020	32.5cm	-25.3cm	-37.9°
28 March 2020	32.5cm	-25.8cm	-38.4°
29 March 2020	32.5cm	-26.3cm	-39°
30 March 2020	38cm	-30.7cm	-38.9°
31 March 2020	38cm	-31.8cm	-39.9°

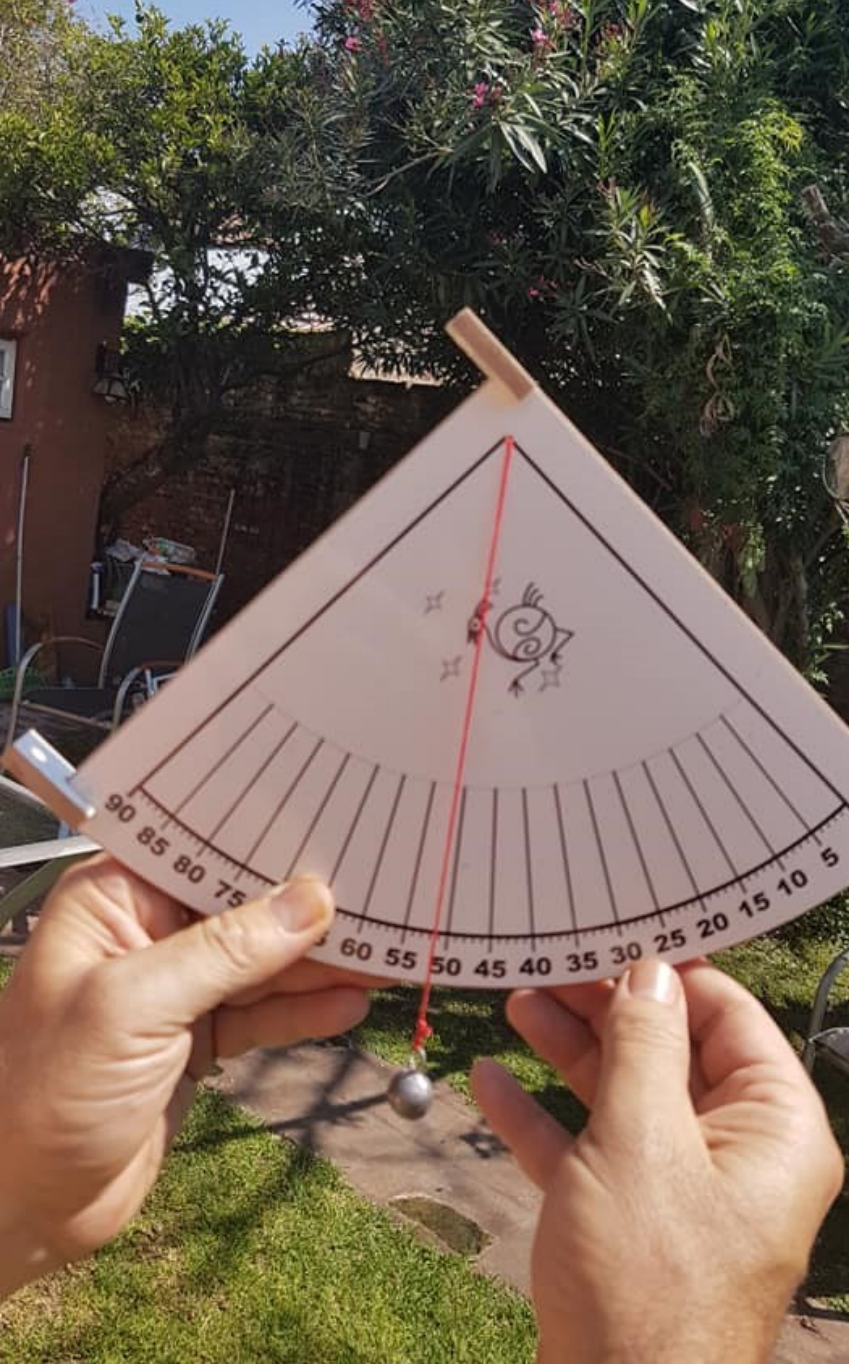
20/03/2020 (Lafrançaise-France) Latitude: 44.127°

20/03/2020 (Chivilcoy-Argentina) Latitude: -34.911°




Distance	Angle
circumference	360°
8781km	44.1° + 34.9°

$$\text{circumference} = \frac{360^\circ \times 8781\text{km}}{44.1^\circ + 34.9^\circ} = 40015 \text{ km}$$



Ghaziabad, India




Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Ghaziabad	India	pvsClub, Vijay nagar	28.633	77.417





Guarne, Colombia

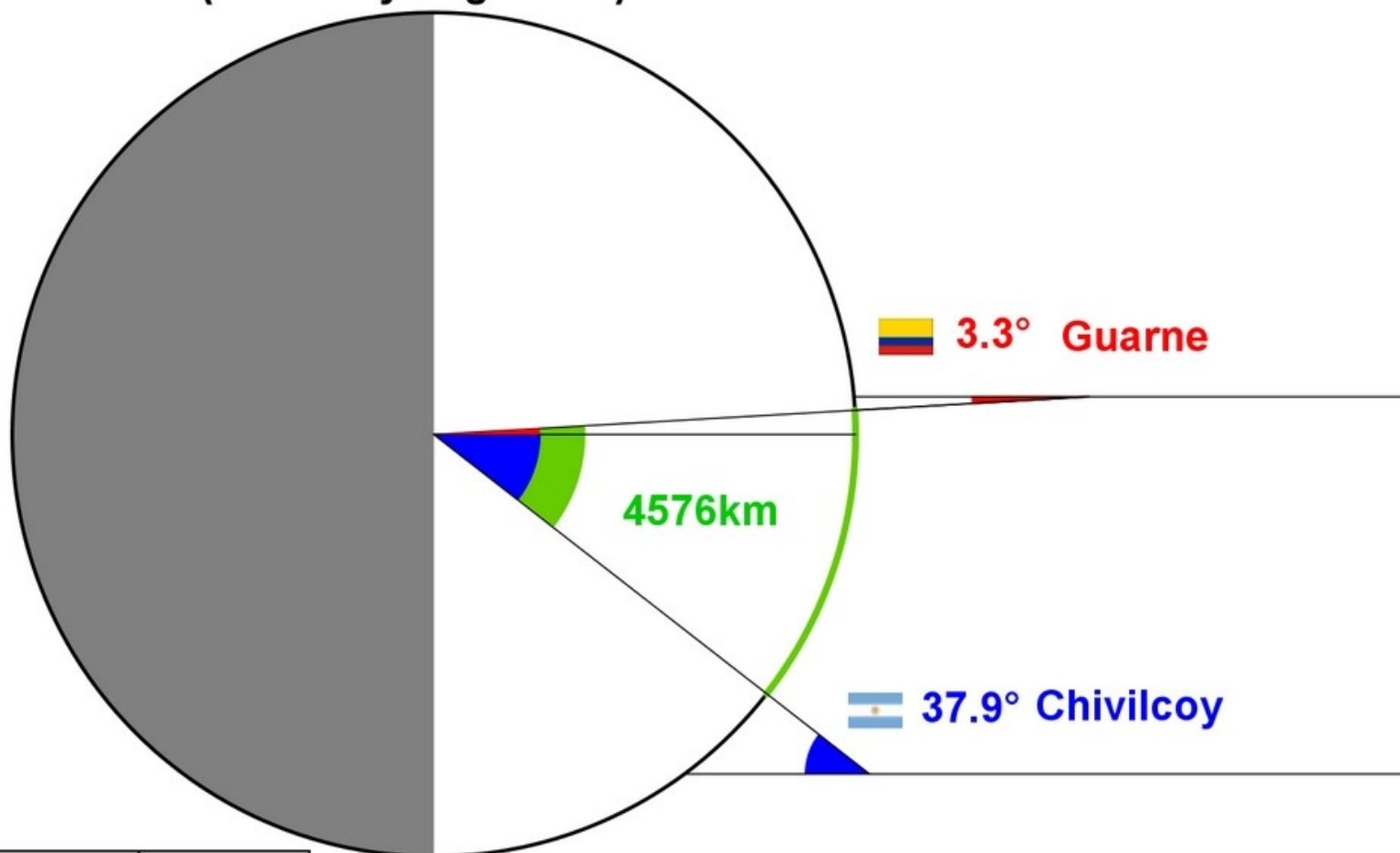


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Guarne	Colombia	Grupo Astrofánaticos	6.274	-75.447

Date	Gnomon	Shadow	Angle
23 March 2020	30.5cm	2.5cm	4.7°
25 March 2020	30.5cm	2.2cm	4.1°
27 March 2020	22.5cm	1.3cm	3.3°
29 March 2020	22.5cm	1cm	2.5°
30 March 2020	22.5cm	0.9cm	2.3°

27/03/2020 (Guarne-Colombia) Latitude: 6.274°

27/03/2020 (Chivilcoy-Argentina) Latitude: -34.911°



Distance	Angle
circumference	360°
4576km	3.3° + 37.9°

$$\text{circumference} = \frac{360^\circ \times 4576\text{km}}{3.3^\circ + 37.9^\circ} = 39984 \text{ km}$$



Ilion, Greece

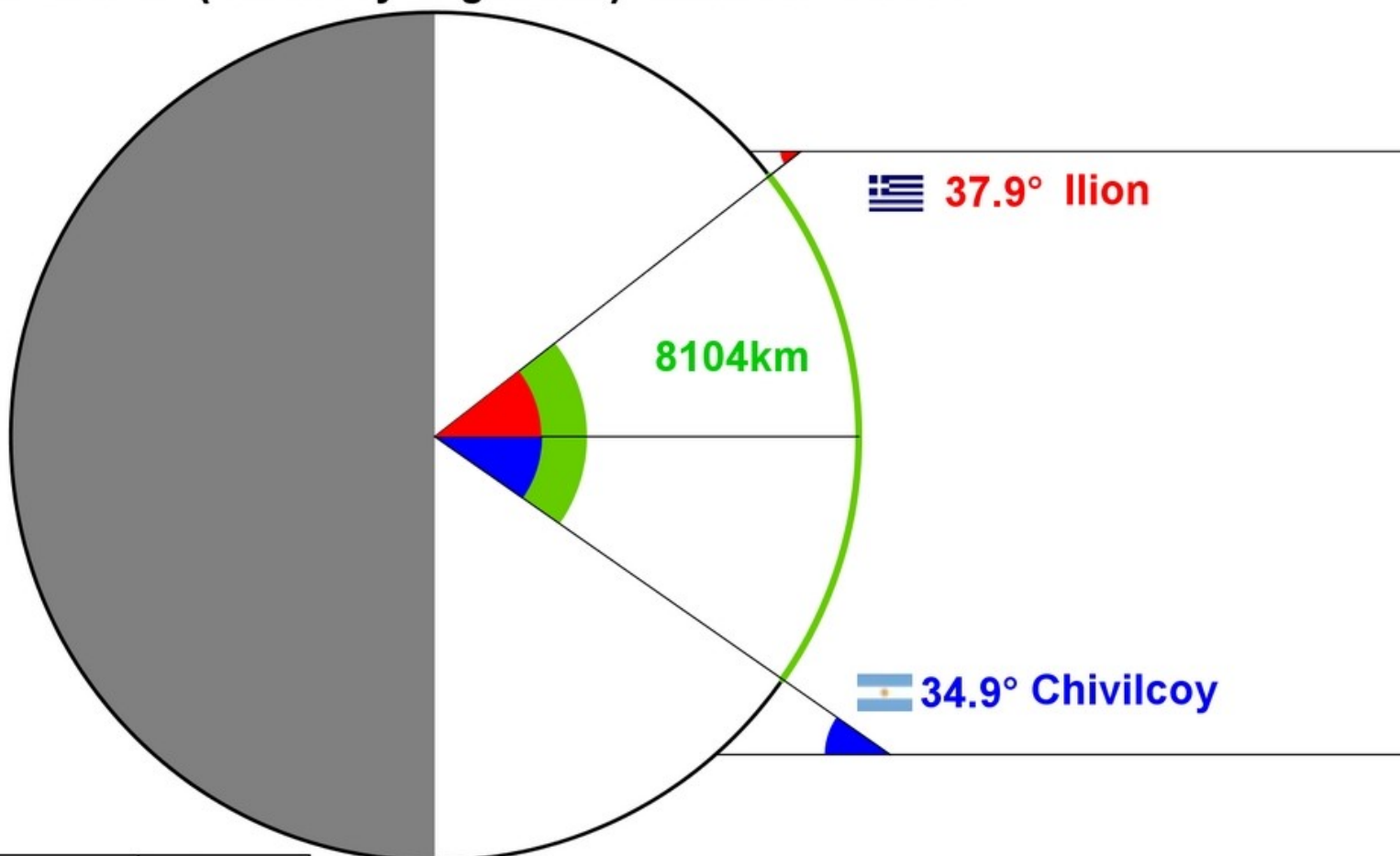


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Ilion	Greece	11th Junior High School of Ilion	38.033	23.697

Date	Gnomon	Shadow	Angle
20 March 2020	59.0cm	46.0cm	37.9°

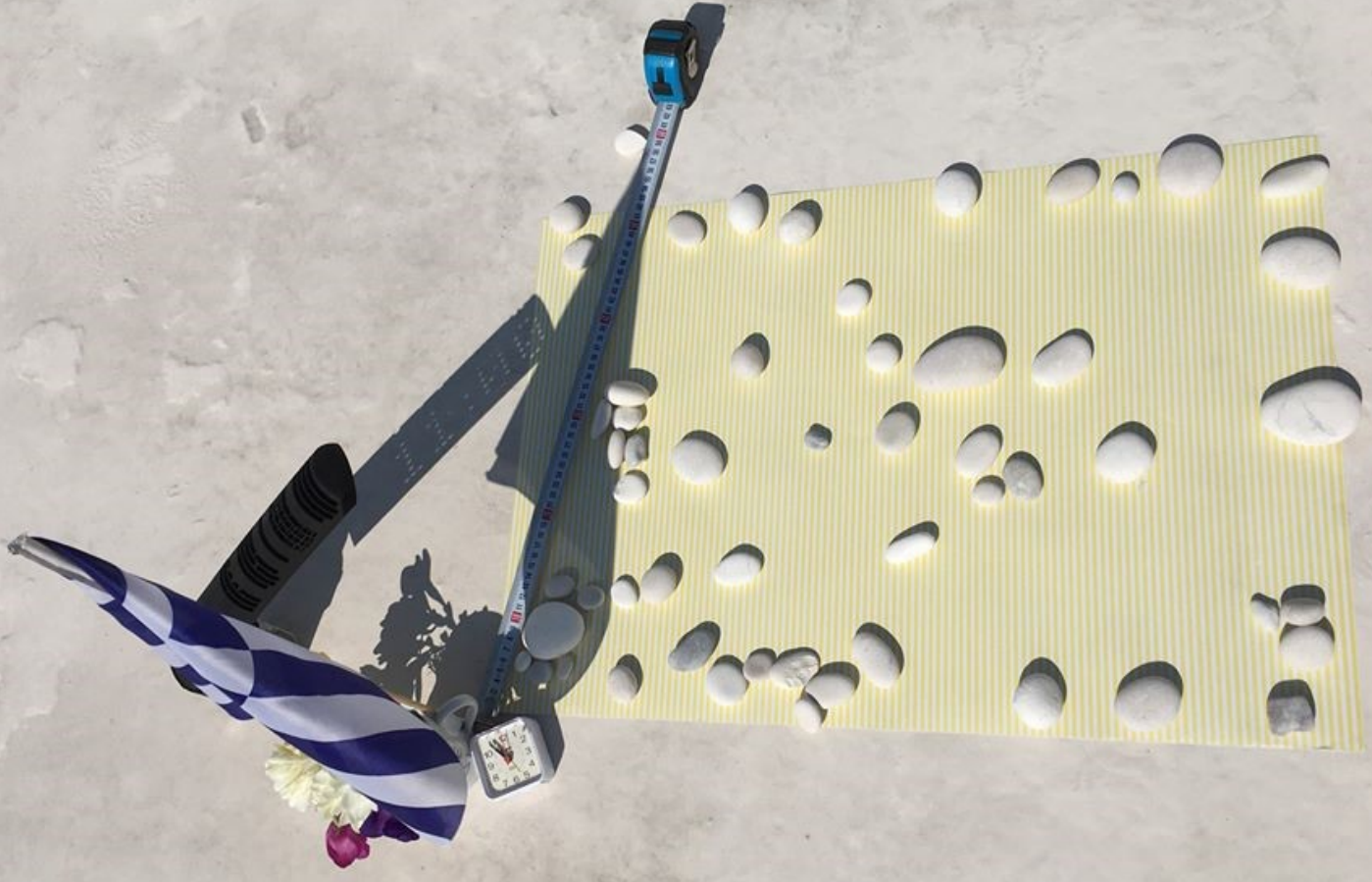
20/03/2020 (Ilion-Greece) Latitude: 38.033°

20/03/2020 (Chivilcoy-Argentina) Latitude: -34.911°




Distance	Angle
circumference	360°
8104km	37.9° + 34.9°

$$\text{circumference} = \frac{360^\circ \times 8104\text{km}}{37.9^\circ + 34.9^\circ} = 40075 \text{ km}$$



Ioannina 7, Greece

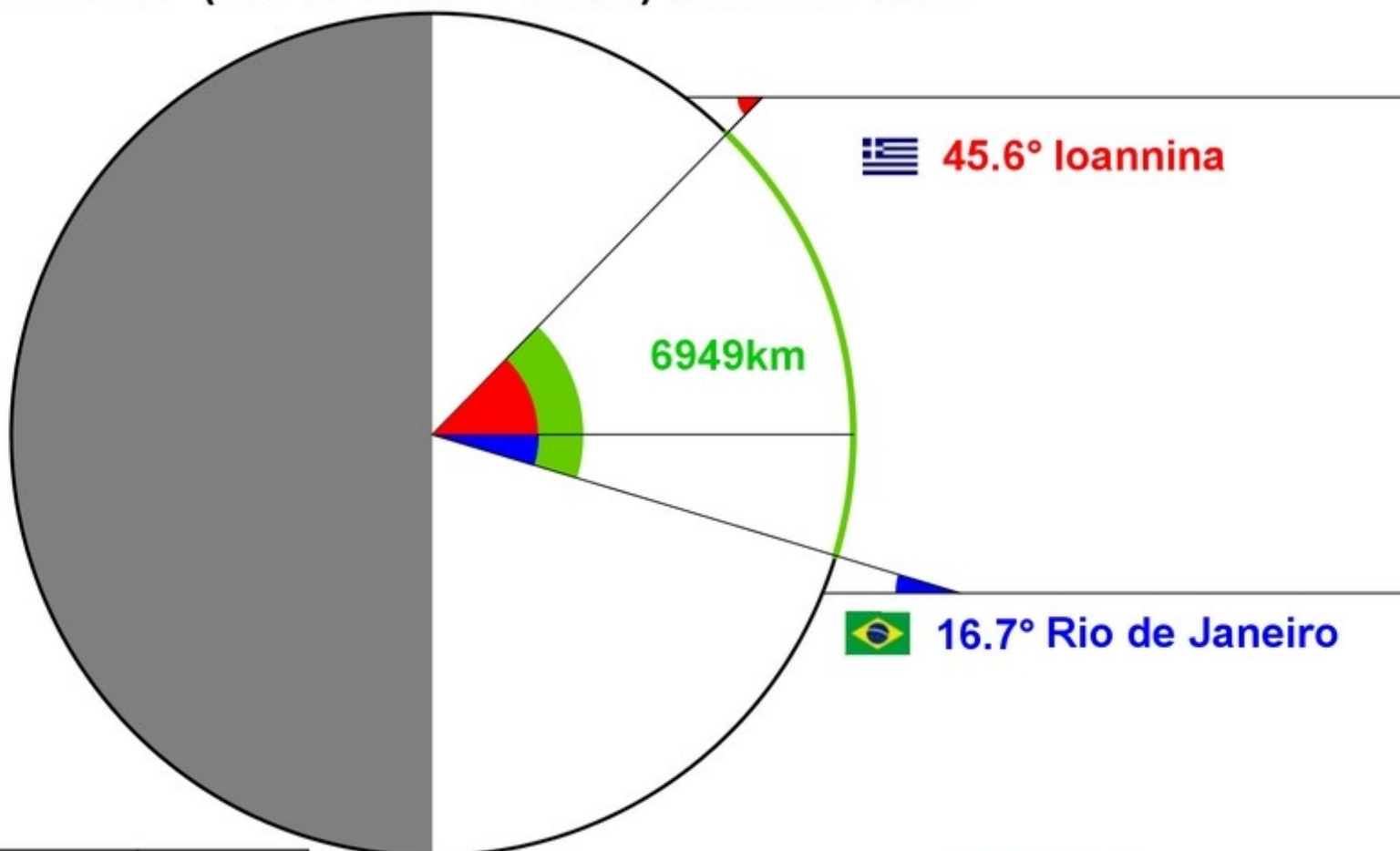


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Ioannina	Greece	7th Junior High School	39.653	20.852

Date	Gnomon	Shadow	Angle
06 March 2020	17.6cm	18.0cm	45.6°

06/03/2020 (Ioannina-Greece) Latitude: 39.653°

06/03/2020 (Rio de Janeiro-Brazil) Latitude: -22.89°



Distance	Angle
circumference	360°
6949km	45.6° + 16.7°

$$\text{circumference} = \frac{360^\circ \times 6949\text{km}}{45.6^\circ + 16.7^\circ} = 40155 \text{ km}$$



Ioannina, Greece

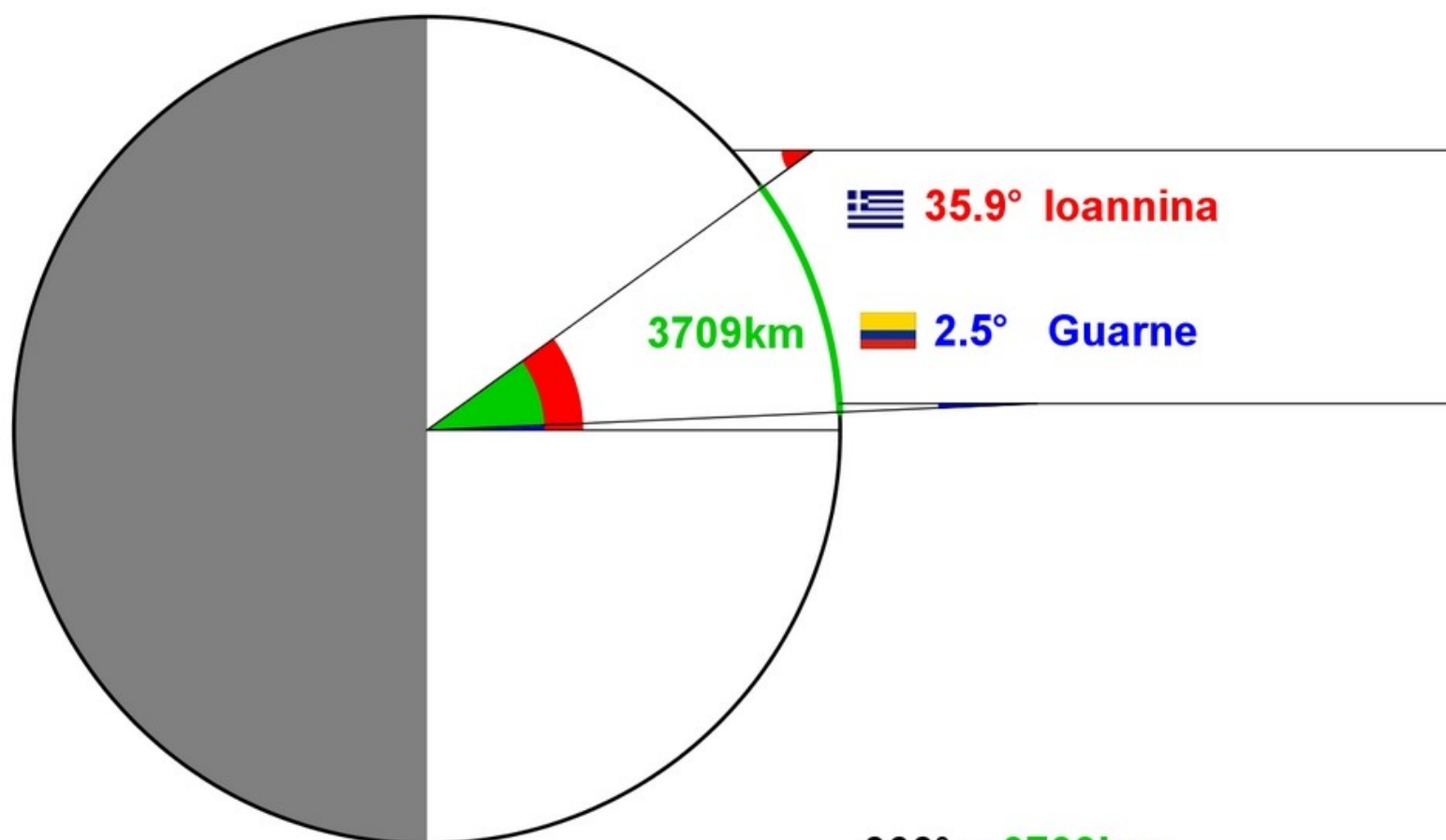


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Ioannina	Greece	Experimental College	39.655	20.846

Date	Gnomon	Shadow	Angle
29 March 2020	100.0cm	72.4cm	35.9°

29/03/2020 (Ioannina-Greece) Latitude: 39.655°

29/03/2020 (Guarne-Colombia) Latitude: 6.274°




Distance	Angle
circumference	360°
3709km	35.9° - 2.5°

$$\text{circumference} = \frac{360^\circ \times 3709\text{km}}{35.9^\circ - 2.5^\circ} = 39977 \text{ km}$$



Lafrançaise, France

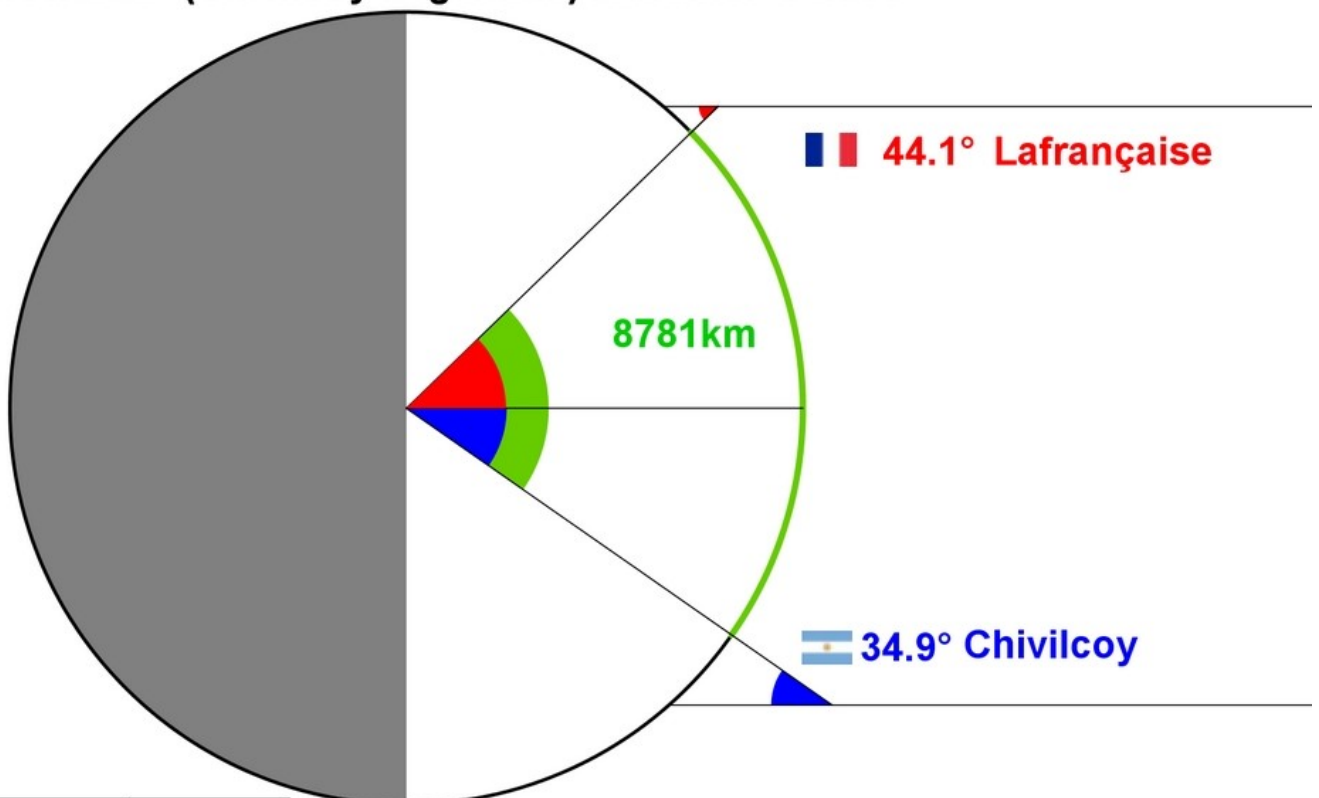


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Lafrançaise	France	Collège Antonin Perbosc	44.127	1.237

Date	Gnomon	Shadow	Angle
06 March 2020	19.6cm	20.0cm	47.6°
06 March 2020	20.6cm	21.0cm	48.6°
06 March 2020	21.6cm	22.0cm	49.6°
06 March 2020	22.6cm	23.0cm	50.6°
06 March 2020	23.6cm	24.0cm	51.6°
06 March 2020	24.6cm	25.0cm	52.6°
18 March 2020	12.5cm	12.5cm	45°
19 March 2020	100.0cm	102.0cm	45.6°
20 March 2020	100.0cm	97.0cm	44.1°
21 March 2020	12.5cm	12.0cm	43.8°
22 March 2020	100.0cm	94.0cm	43.2°
23 March 2020	12.5cm	11.6cm	42.9°
24 March 2020	100.0cm	90.0cm	42.0°
25 March 2020	100cm	90cm	42°
26 March 2020	100cm	88cm	41.3°
27 March 2020	100cm	87cm	41°
28 March 2020	100cm	85.5cm	40.5°
30 March 2020	12.5cm	10.5cm	40°
31 March 2020	100cm	82.5cm	39.5°

20/03/2020 (Lafrançaise-France) Latitude: 44.127°

20/03/2020 (Chivilcoy-Argentina) Latitude: -34.911°



Distance	Angle
circumference	360°
8781km	44.1° + 34.9°

$$\text{circumference} = \frac{360^\circ \times 8781\text{km}}{44.1^\circ + 34.9^\circ} = 40015 \text{ km}$$



Lundi 16 Mars

Gnomon= 100cm
Longueur= 101cm
Photo prise à 13h20



Mercredi 18 Mars
Gnomon= 100cm
longueur= 102cm
Photo prise à 12h15min



Jeudi 19 Mars
Longueur = 102cm
Gnomon = 100cm
Photo prise a 12h10min



Vendredi 20 Mars
Gnomon = 100cm
longuer = 97cm
Photo prise a 12h47min



Dimanche 22 Mars
Gnomon = 100cm
Longueur = 94cm
Photo prise à 12h35min



Mardi 24 Mars
Gnomon = 100cm
Longueur = 90cm
Photo Prise à 12h47min



Mercredi 25 Mars
Gnomon = 100cm
Longueur = 90cm
Photo prise a 12h25



Jeudi 26 Mars
Gnomon = 100cm
Longueur = 88cm
Photo prise à 12h45



France : Lafrançaise
Vendredi 27 Mars
Gnomon = 100cm
Longueur = 87cm
Photo prise a 12h42min



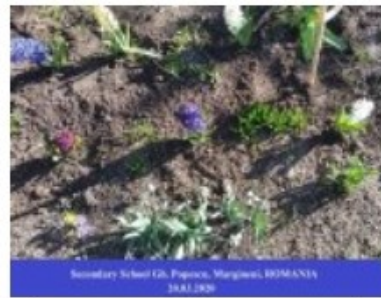
France : Lafrançaise
Samedi 28 Mars
Gnomon = 100 cm
Longueur = 85.5 cm
Photo prise à 12h48min



France: Lafrançaise
Mardi 31 Mars
Gnomon = 100cm
Longueur = 82.5cm
Photo prise a 13h40min



Margineni, Romania



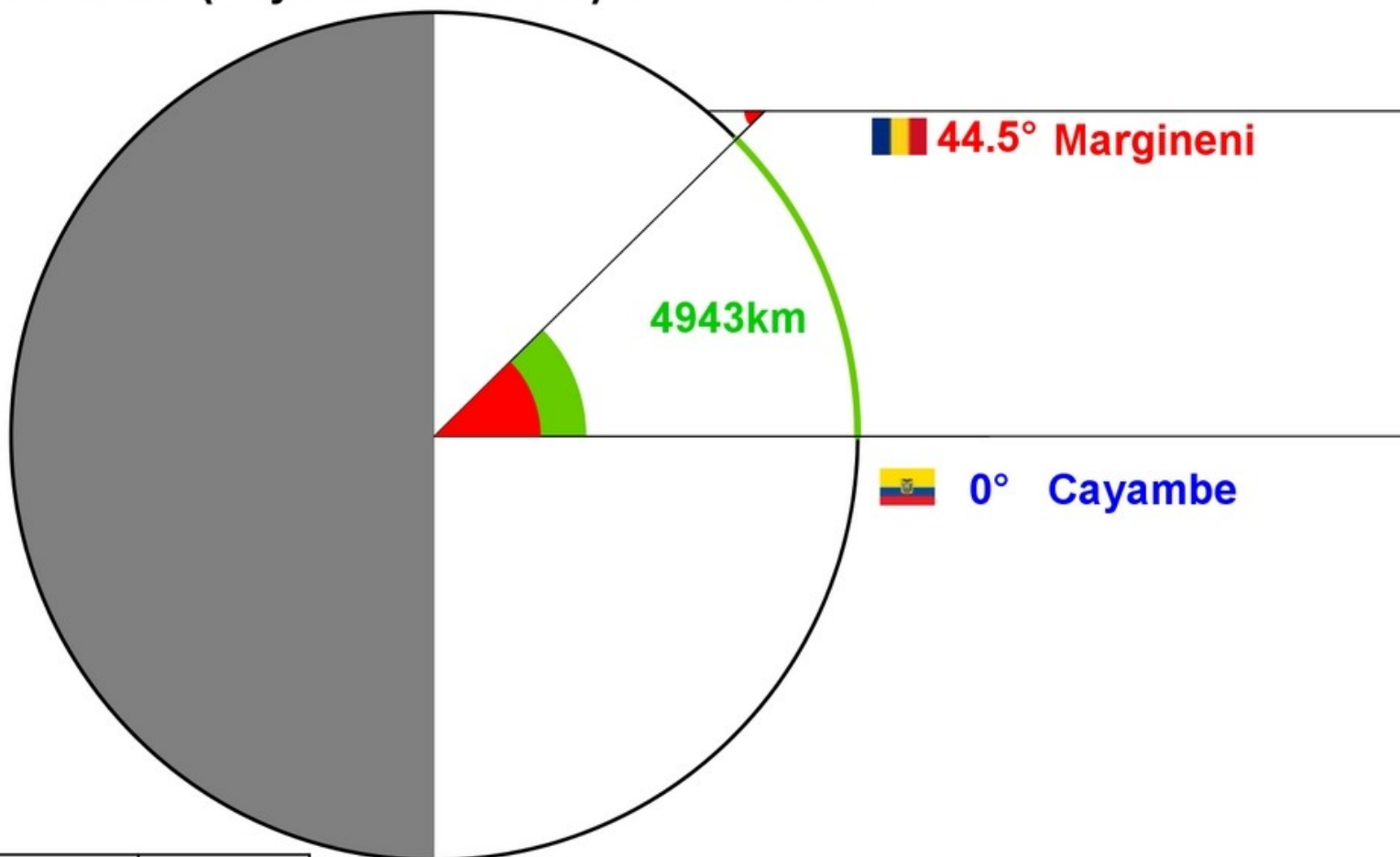
Secondary School Gh. Popescu, Margineni, ROMANIA
20.03.2020

Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Margineni	Romania	Secondary School Gh. Popescu	44.533	24.544

Date	Gnomon	Shadow	Angle
20 March 2020	100.0cm	98.4cm	44.5°
21 March 2020	100.0cm	98.4cm	44.5°

20/03/2020 (Margineni-Romania) Latitude: 44.533°

20/03/2020 (Cayambe-Ecuador) Latitude: 0.045°



Distance	Angle
circumference	360°
4943km	44.5° + 0°

$$\text{circumference} = \frac{360^\circ \times 4943\text{km}}{44.5^\circ + 0^\circ} = 39988 \text{ km}$$



Secondary School Gh. Popescu, Margineni, ROMANIA

20.03.2020



Meerut Jani, India

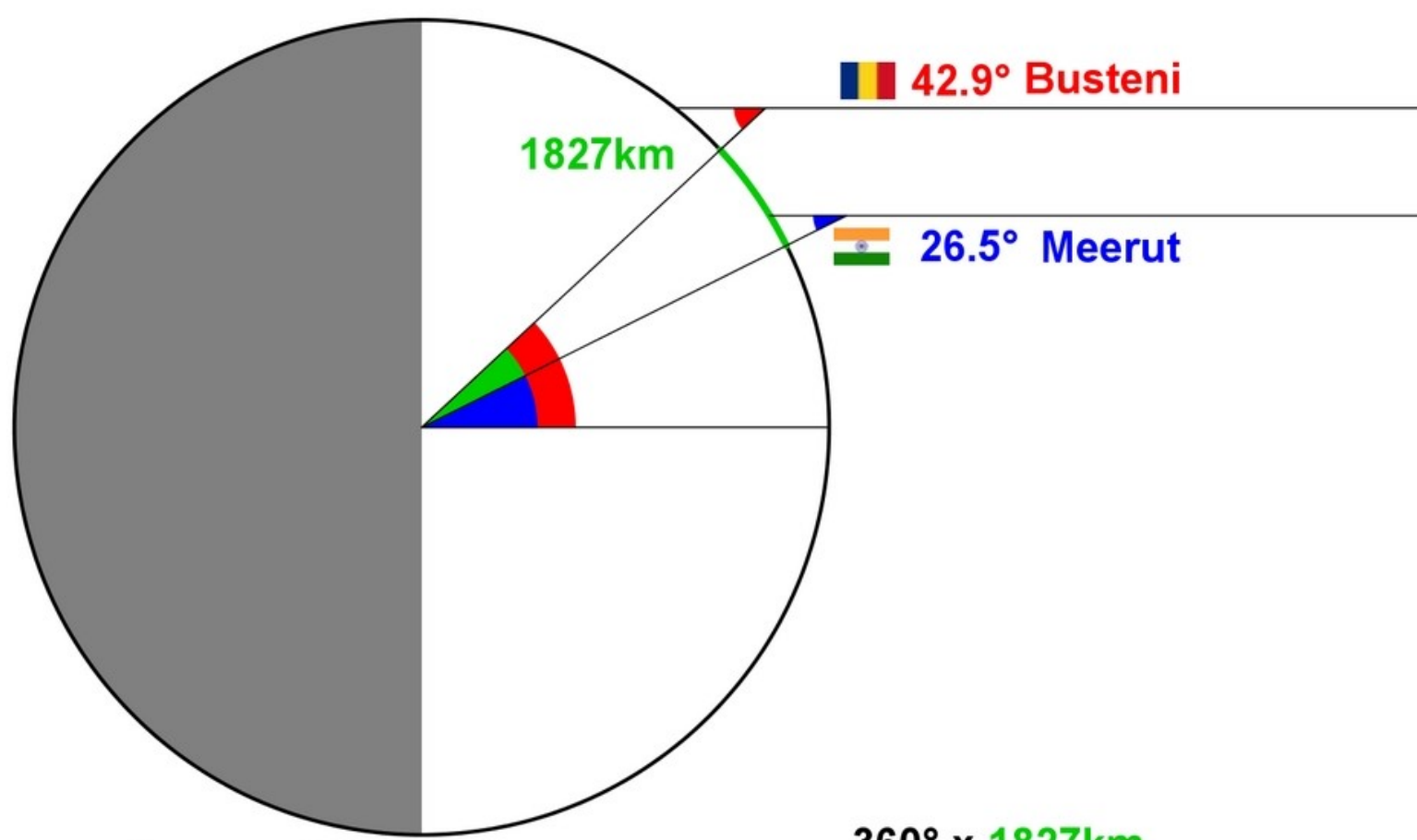


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Meerut	India	UPS Sisola Kalan Jani	28.982	77.568

Date	Gnomon	Shadow	Angle
26 March 2020	90.2cm	45.0cm	26.5°

26/03/2020 (Busteni-Romania) Latitude: 45.416°

26/03/2020 (Meerut-India) Latitude: 28.967°




Distance	Angle
circumference	360°
1827km	42.9° - 26.5°

$$\text{circumference} = \frac{360^\circ \times 1827\text{km}}{42.9^\circ - 26.5^\circ} = 40105 \text{ km}$$



Petroupoli, Greece

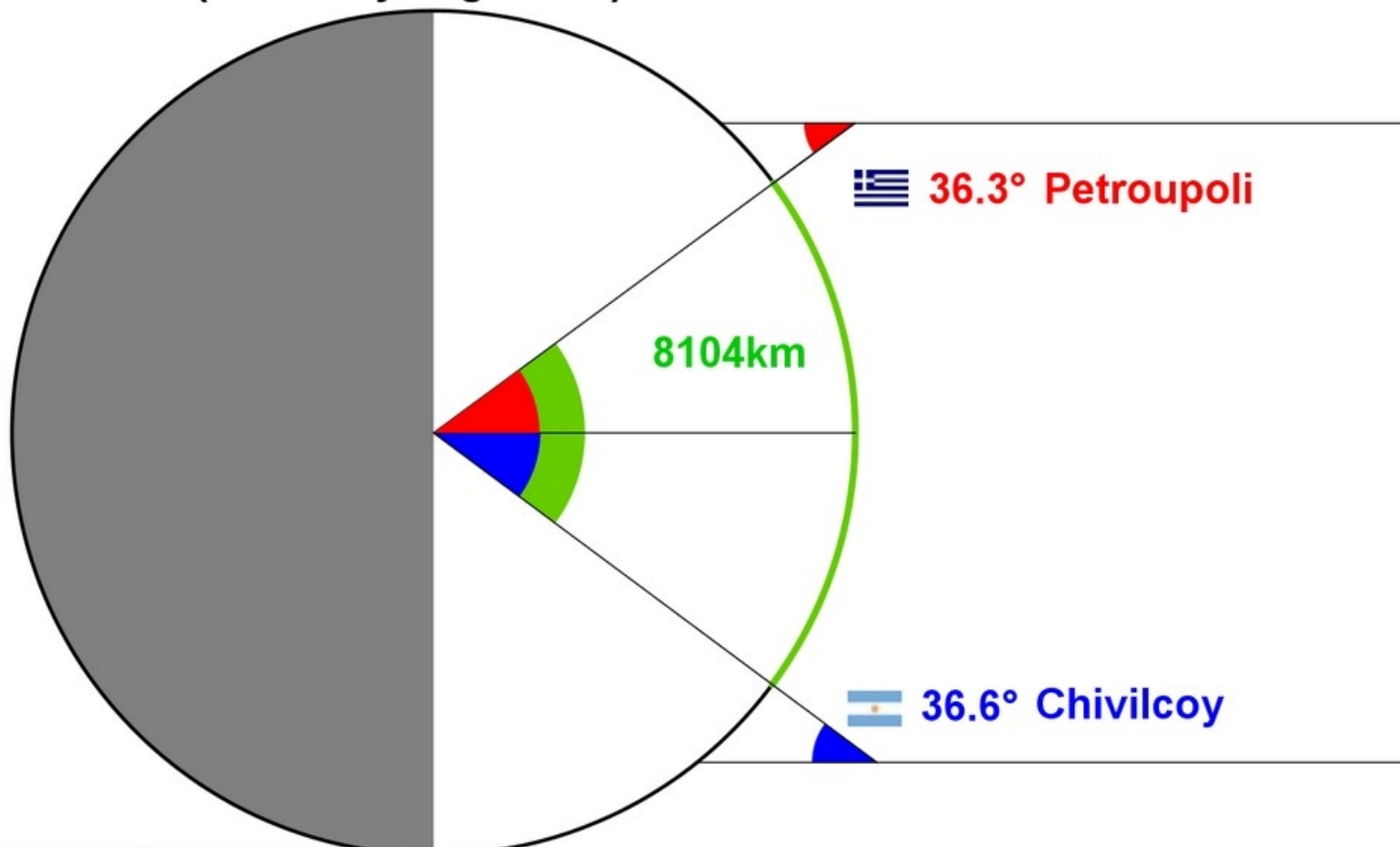


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Petroupoli	Greece	4th Junior High School	38.036	23.674

Date	Gnomon	Shadow	Angle
05 March 2020	59.5cm	57.0cm	43.8°
18 March 2020	100cm	81.2cm	39.1°
19 March 2020	100.0cm	79.6cm	38.5°
24 March 2020	20cm	14.7cm	36.3°
25 March 2020	32cm	23.3cm	36.1°
30 March 2020	21.5cm	14.5cm	34°

24/03/2020 (Petroupoli-Greece) Latitude: 38.036°

24/03/2020 (Chivilcoy-Argentina) Latitude: -34.911°



Distance	Angle
circumference	360°
8104km	36.3° + 36.6°

$$\text{circumference} = \frac{360^\circ \times 8104\text{km}}{36.3^\circ + 36.6^\circ} = 40020 \text{ km}$$



Piranguinho, Brazil

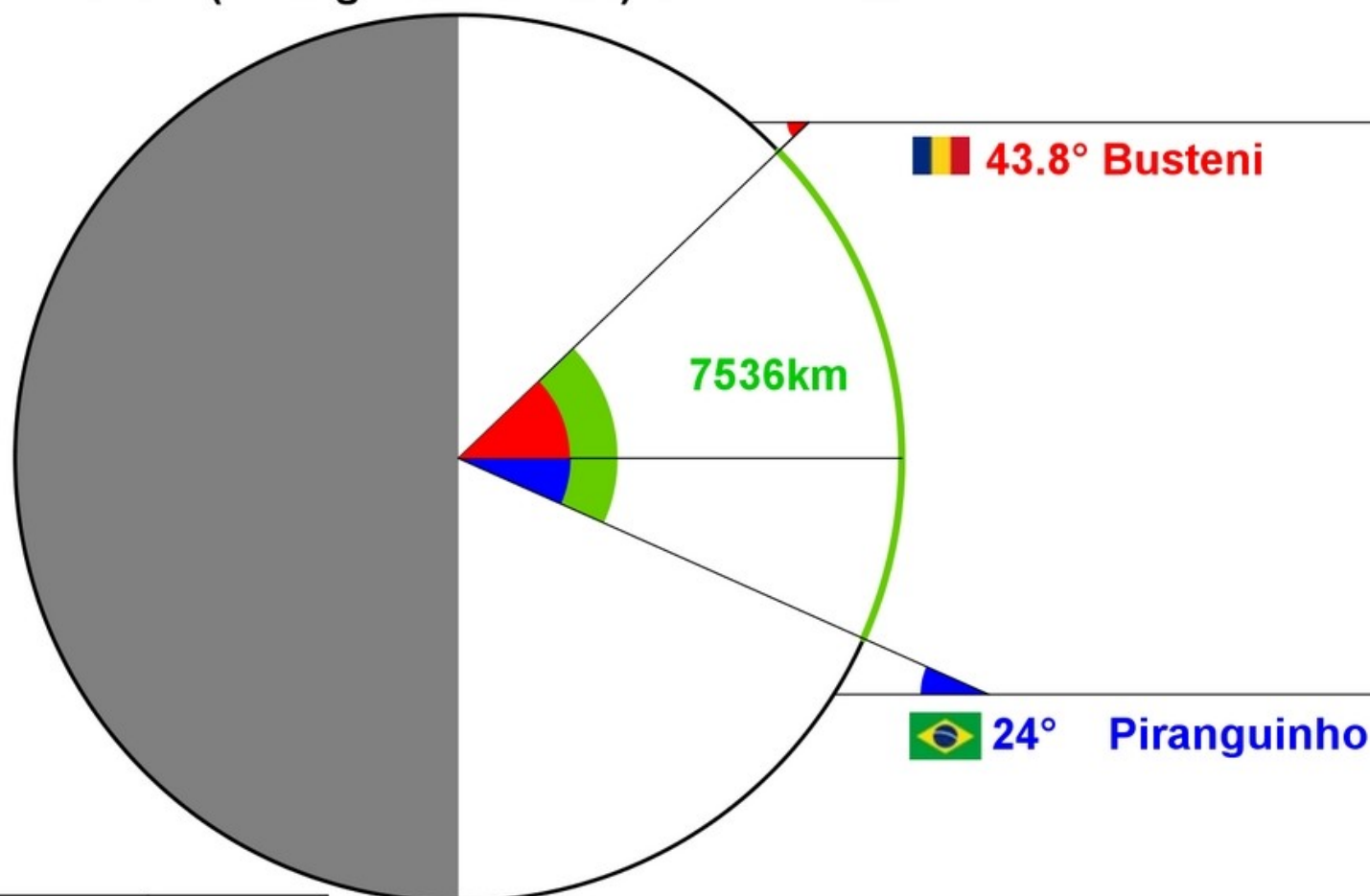


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Piranguinho	Brazil	Universidade Federal de Itajubá	-22.411	-45.535

Date	Gnomon	Shadow	Angle
23 March 2020	70cm	-30.3cm	-23.4°
24 March 2020	70cm	-31.2cm	-24°
26 March 2020	70cm	-33cm	-25.2°
28 March 2020	70.0cm	-33.7cm	-25.7°
30 March 2020	70cm	-34.6cm	-26.3°

24/03/2020 (Busteni-Romania) Latitude: 45.416°

24/03/2020 (Piranguinho-Brazil) Latitude: -22.411°



 **43.8° Busteni**

 **24° Piranguinho**

Distance	Angle
circumference	360°
7536km	43.8° + 24°

$$\text{circumference} = \frac{360^\circ \times 7536\text{km}}{43.8^\circ + 24^\circ} = 40014 \text{ km}$$

Piranguinho - Brazil

Long = -45.535165

Lat = -22.410516

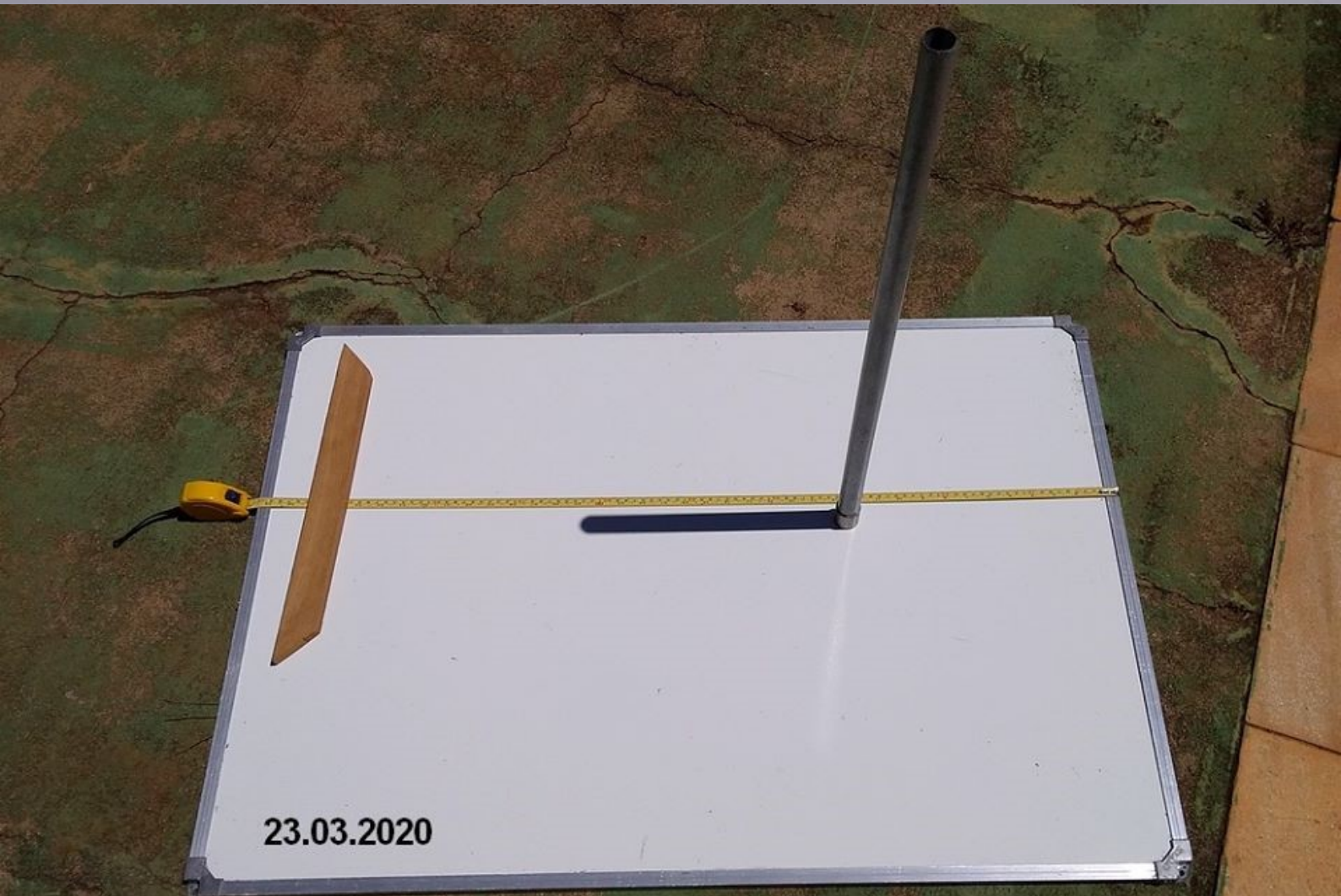
$h = 70.0 \text{ cm}$

$s = -30.3 \text{ cm}$

$\text{ang} = \text{atan}(s/h) = -23.4 \text{ degrees}$



23.03.2020



23.03.2020

Rio Cuarto, Argentina

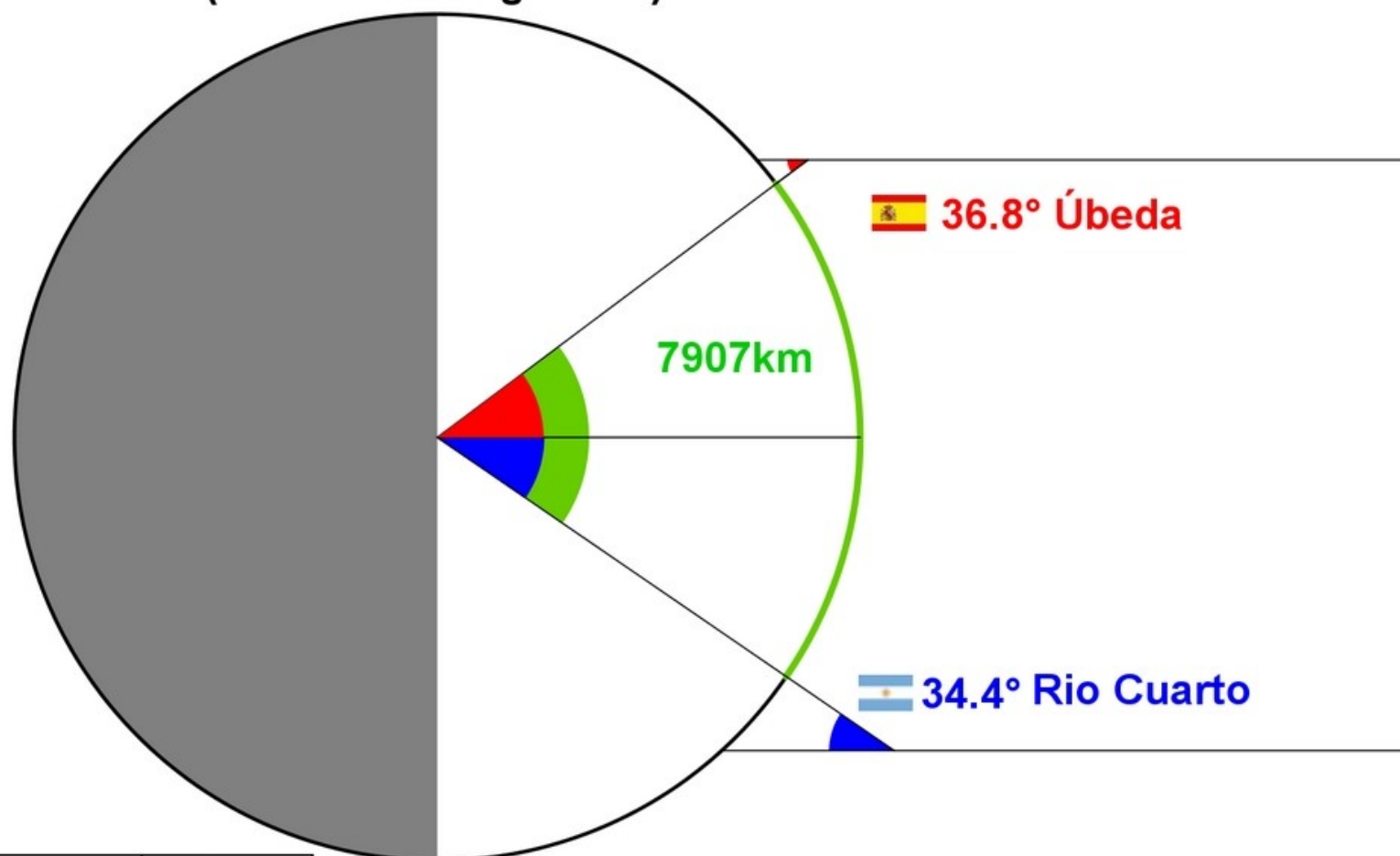


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Rio Cuarto	Argentina	Colegio Concordia	-33.149	-64.351

Date	Gnomon	Shadow	Angle
08 March 2020	20cm	-4cm	-11.3°
20 March 2020	52.5cm	-35.9cm	-34.4°
21 March 2020	52.5cm	-34.2cm	-33.1°
22 March 2020	28.5cm	-19.5cm	-34.4°

20/03/2020 (Úbeda-Spain) Latitude: 38.017°

20/03/2020 (Rio Cuarto-Argentina) Latitude: -33.149°




Distance	Angle
circumference	360°
7907km	36.8°+34.4°

$$\text{circumference} = \frac{360^\circ \times 7907\text{km}}{36.8^\circ + 34.4^\circ} = 39979 \text{ km}$$



Rio de Janeiro CENOM, Brazil

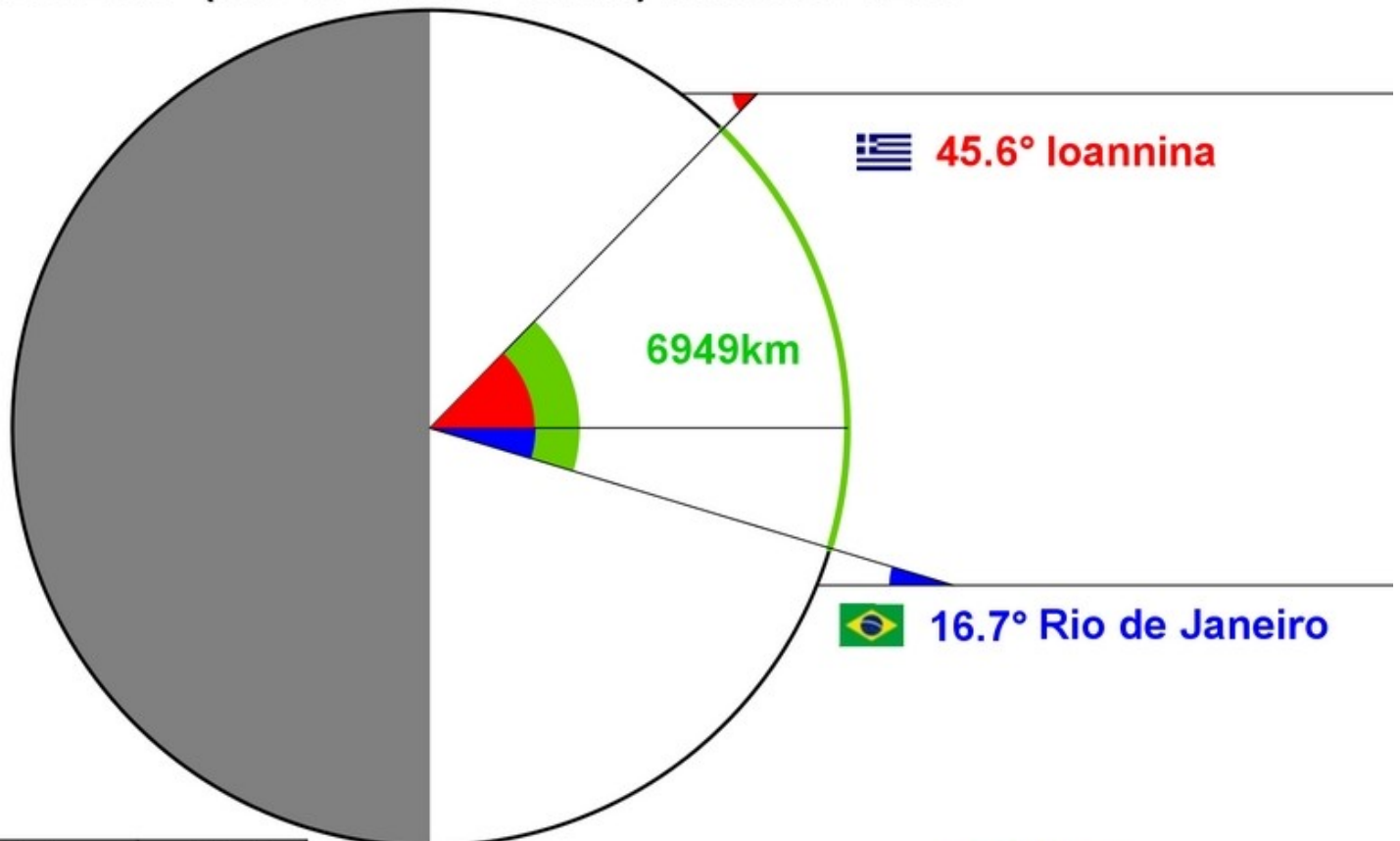


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Rio de Janeiro	Brazil	Centro Educacional Nosso Mundo	-22.890	-43.317

Date	Gnomon	Shadow	Angle
03 March 2020	20.0cm	-5.0cm	-14.0°
05 March 2020	20.0cm	-5.0cm	-14.0°
06 March 2020	20.0cm	-6.0cm	-16.7°
09 March 2020	20cm	-6cm	-16.7°
10 March 2020	20cm	-6cm	-16.7°
11 March 2020	20cm	-6cm	-16.7°
12 March 2020	20.0cm	-7.0cm	-19.3°
13 March 2020	20.0cm	-7.0cm	-19.3°
16 March 2020	20cm	-7cm	-19.3°
18 March 2020	20.0cm	-7.0cm	-19.3°
19 March 2020	20.0cm	-8.0cm	-21.8°
20 March 2020	20.0cm	-8.0cm	-21.8°
25 March 2020	10cm	-4.5cm	-24.2°
26 March 2020	10cm	-4.5cm	-24.2°
27 March 2020	14cm	-8cm	-29.7°
28 March 2020	10cm	-4.5cm	-24.2°

06/03/2020 (Ioannina-Greece) Latitude: 39.653°

06/03/2020 (Rio de Janeiro-Brazil) Latitude: -22.89°




Distance	Angle
circumference	360°
6949km	45.6° + 16.7°

$$\text{circumference} = \frac{360^\circ \times 6949\text{km}}{45.6^\circ + 16.7^\circ} = 40155 \text{ km}$$



Rio de Janeiro Copacabana, Brazil



Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Rio de Janeiro	Brazil	Forte de Copacabana	-22.967	-43.176

Date	Gnomon	Shadow	Angle
08 March 2020	20cm	-4cm	-11.3°





Tandi Nani, India

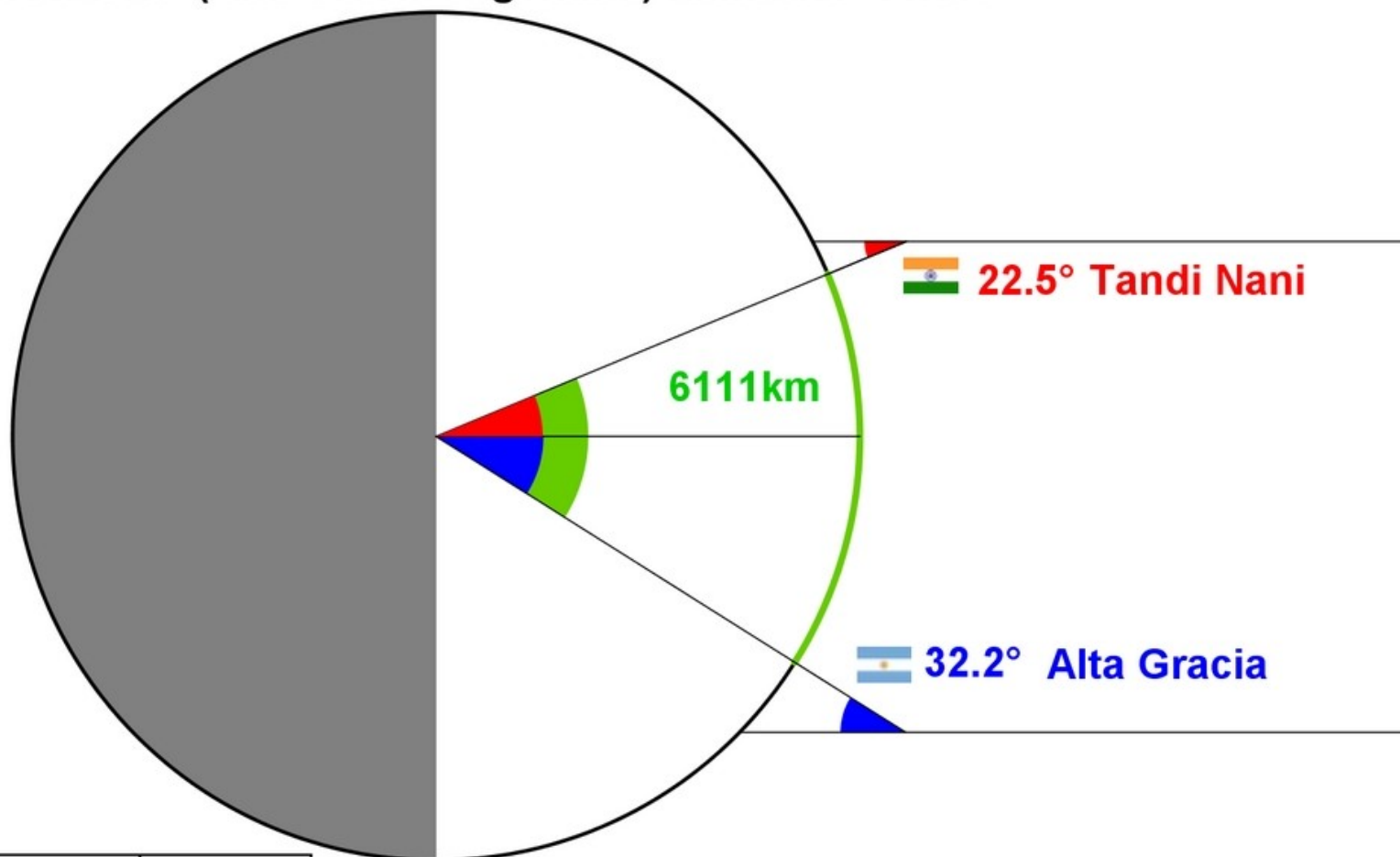


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Tandi Nani	India	Govt senior secondary school Tandi Nani	23.346	92.483

Date	Gnomon	Shadow	Angle
24 March 2020	66.5cm	27.5cm	22.5°

24/03/2020 (Tandi Nani-India) Latitude: 23.346°

24/03/2020 (Alta Gracia-Argentina) Latitude: -31.659°




Distance	Angle
circumference	360°
6111km	22.5° + 32.2°

$$\text{circumference} = \frac{360^\circ \times 6111\text{km}}{22.5^\circ + 32.2^\circ} = 40219 \text{ km}$$



Úbeda, Spain

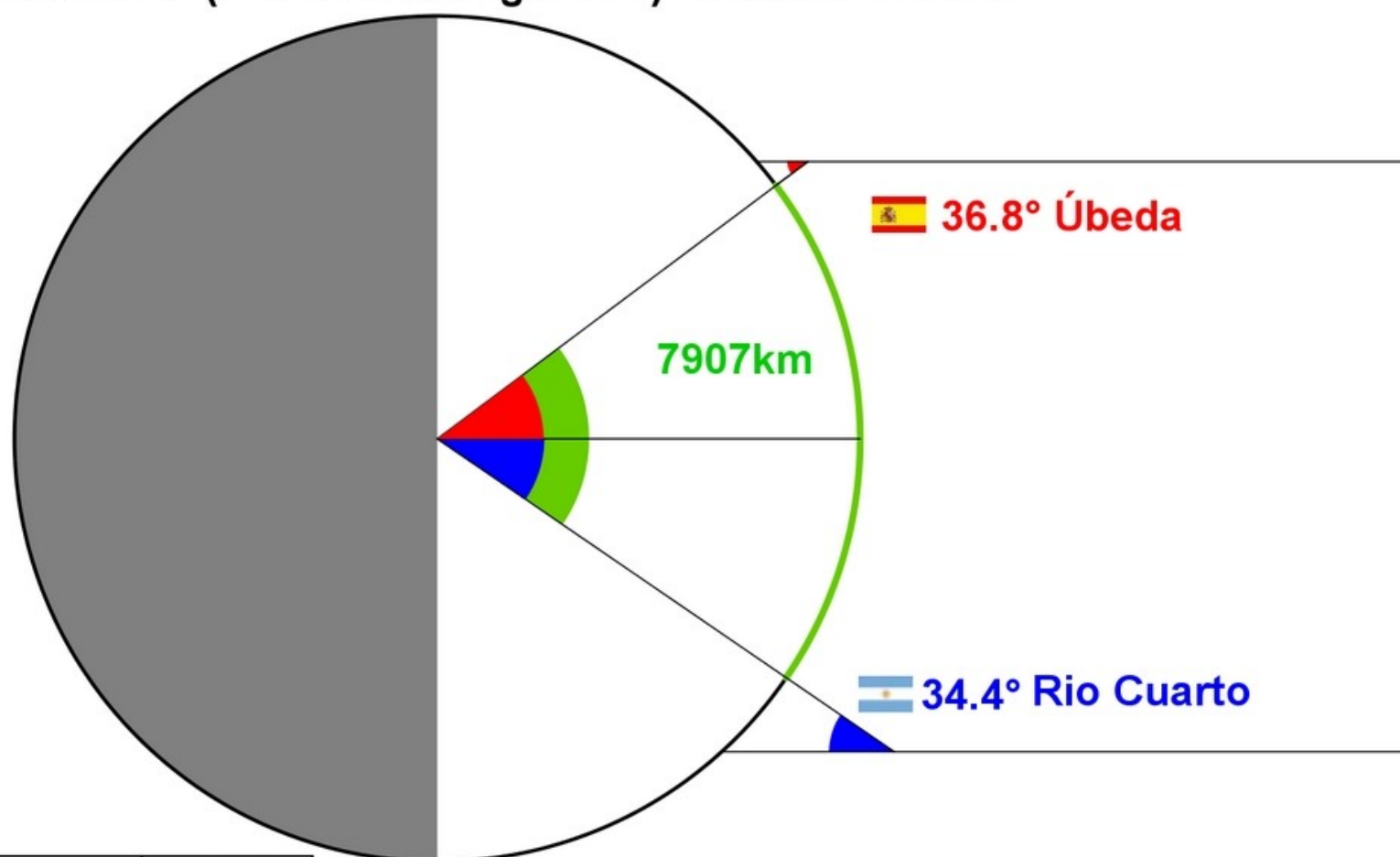


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Úbeda	Spain	Colegio Salesiano Santo Domingo Savio	38.017	-3.367

Date	Gnomon	Shadow	Angle
18 March 2020	36.6cm	28.4cm	37.8°
20 March 2020	46.3cm	34.6cm	36.8°
28 March 2020	55cm	37.2cm	34.1°

20/03/2020 (Úbeda-Spain) Latitude: 38.017°

20/03/2020 (Rio Cuarto-Argentina) Latitude: -33.149°



Distance	Angle
circumference	360°
7907km	36.8°+34.4°

$$\text{circumference} = \frac{360^\circ \times 7907\text{km}}{36.8^\circ + 34.4^\circ} = 39979 \text{ km}$$



Yamunanagar, India

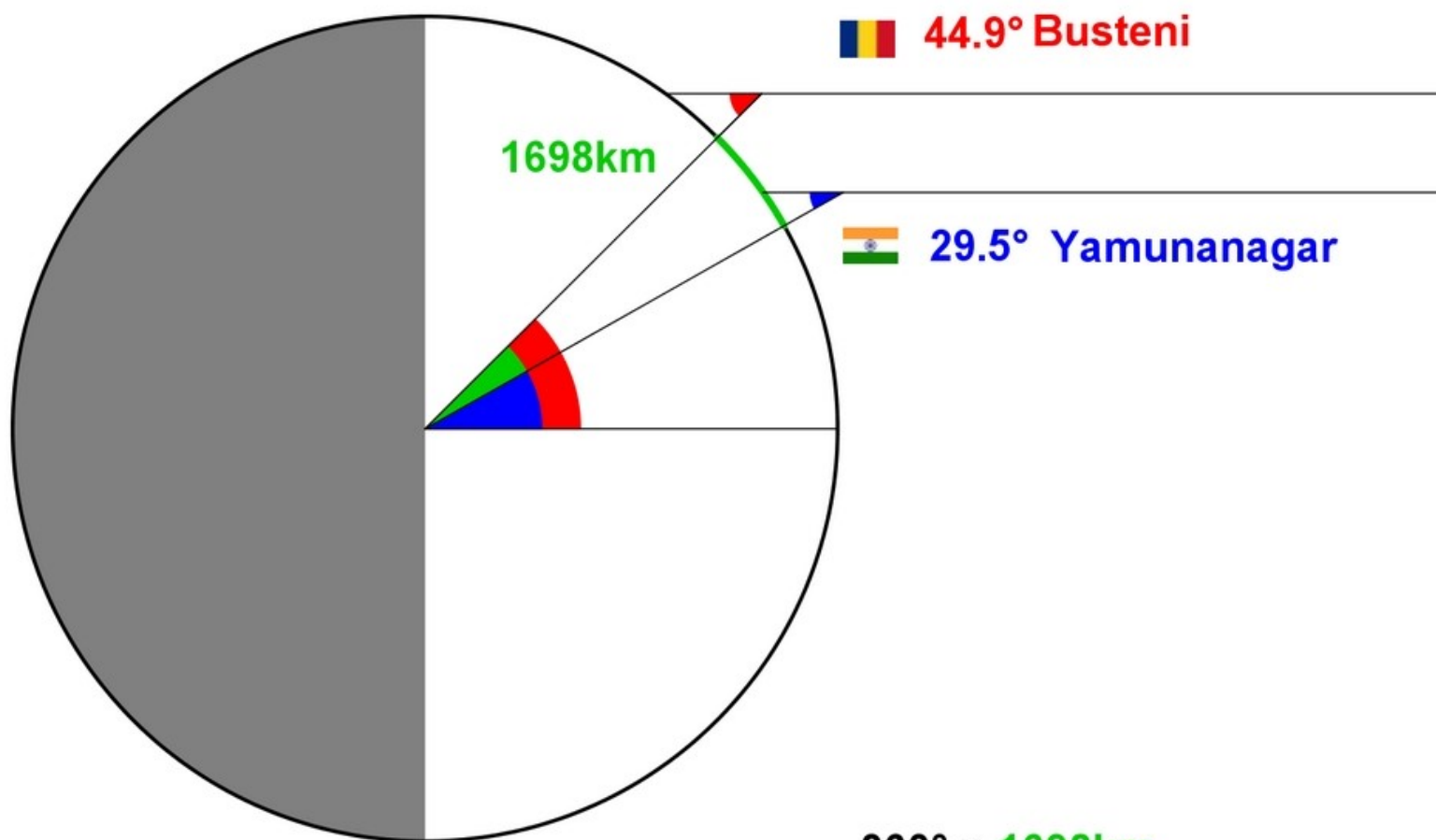


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Yamunanagar	India	C V Raman Science Club	30.133	77.283

Date	Gnomon	Shadow	Angle
21 March 2020	102.0cm	57.7cm	29.5°
23 March 2020	49.0cm	29.6cm	31.1°

21/03/2020 (Busteni-Romania) Latitude: 45.416°

21/03/2020 (Yamunanagar-India) Latitude: 30.133°



$$\text{circumference} = \frac{360^\circ \times 1698\text{km}}{44.9^\circ - 29.5^\circ} = 39694 \text{ km}$$

Distance	Angle
circumference	360°
1698km	44.9° - 29.5°



