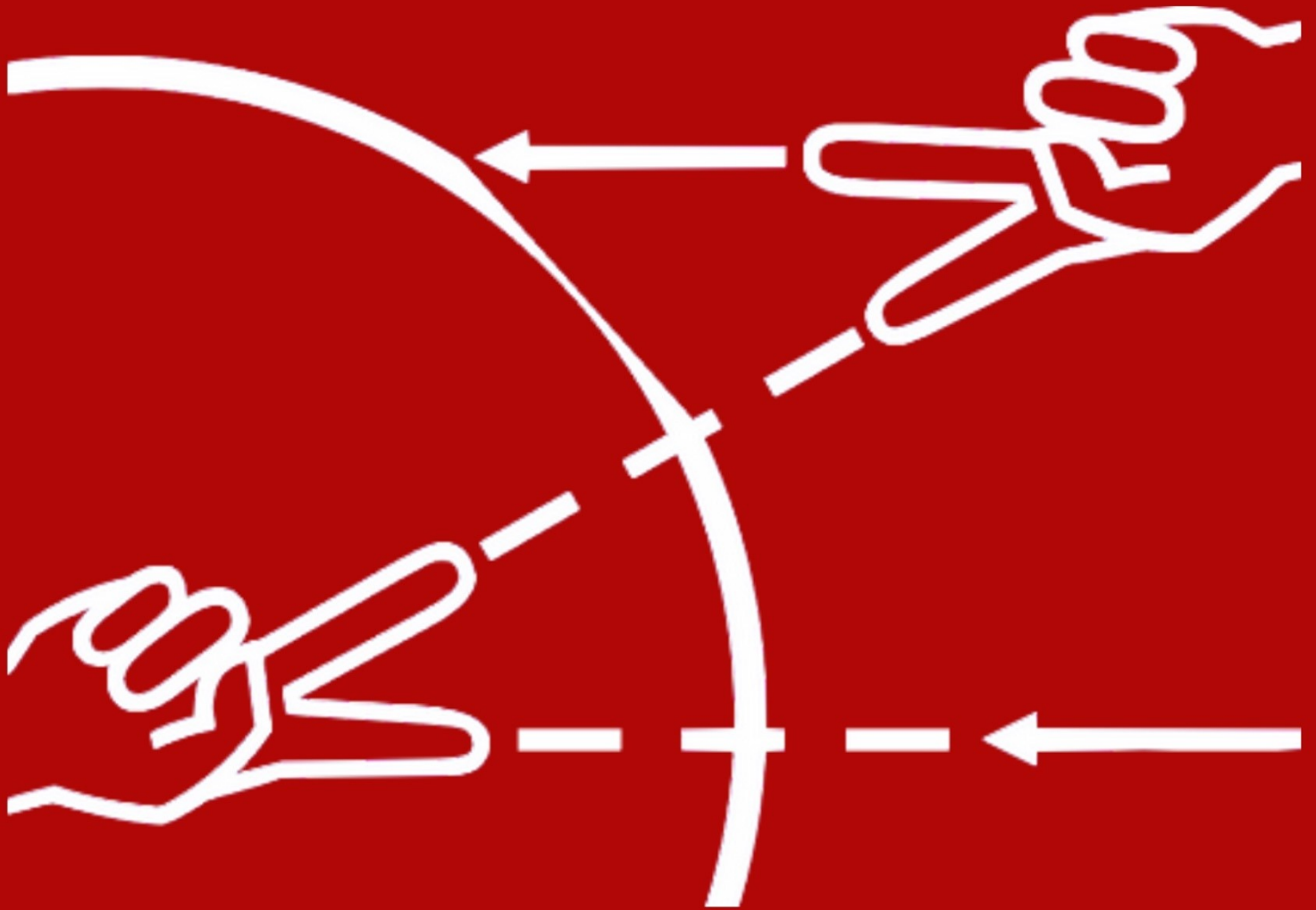


Eratostrhenes



4 Continents

8 Countries

17 Schools

57 Measures

N°37

January 2019

4 Continents

8 Countries

17 Schools

57 Measures

BRAZIL (4)

Bombinhas, Méier, Piranguinho, Rio de Janeiro

COLOMBIA (1)

Guarne

FRANCE (1)

Lafrancaise

GREECE (2)

Aigio, Athens

INDIA (4)

Hyderabad, Kurukshetra, Luhari, Yamunanagar

ROMANIA (3)

Busteni, Mărgineni, Pogana

SPAIN (1)

Úbeda

TUNISIA (1)

Bizerte

Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Aigio	Greece	1st High School of Aigio	38.252	22.079
	Athens	Greece	Experimental College Agion Anargyron	38.027	23.726
	Bizerte	Tunisia	Ecole Primaire Raouabi	37.284	9.868
	Busteni	Romania	Colegiul Ion Kalinderu	45.416	25.535
	Guarne	Colombia	Grupo Astrofanáticos	6.274	-75.449
	Hyderabad	India	Space Adhyaan	17.385	78.487
	Kurukshetra	India	Technology Education & Research Integrated Institutions	29.924	76.724
	Lafrançaise	France	Collège Antonin Perbosc	44.127	1.237
	Luhari	India	Govt SSS Luhari	26.740	77.927
	Mărgineni	Romania	Gh. Popescu School	44.533	24.554
	Piranguinho	Brazil	Universidade Federal de Itajubá	-22.411	-45.535
	Rio de Janeiro	Brazil	Centro Educacional Nosso Mundo	-22.890	-43.317
	Rio de Janeiro	Brazil	Escola Municipal Bento Ribeiro, Méier	-22.904	-43.280
	Pogana	Romania	Scoala Gimnaziala Nr.1 Pogana	46.313	27.575
	Úbeda	Spain	Colegio Salesiano Santo Domingo Savio	38.017	-3.367
	Yamunanagar	India	Mukand Lal PS Sarojini Colony	30.133	77.283

Aigio, Greece

January 2019



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

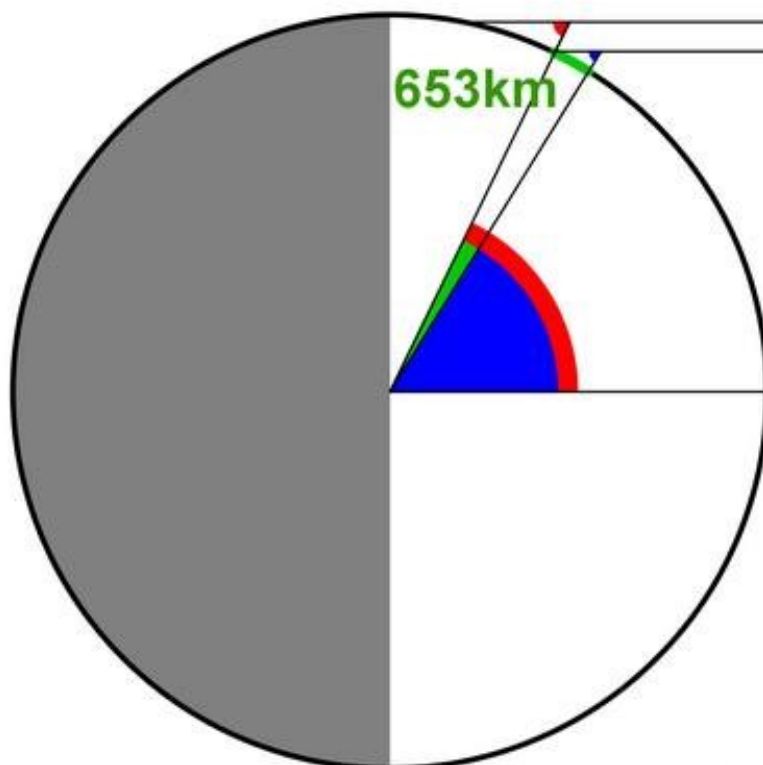
Date	Gnomon	Shadow	Angle
17 January 2019	30.0 cm	49.7 cm	58.9 °
21 January 2019	30.0 cm	48.3 cm	58.2 °

21/01/2019 (Lafrançaise-France) Latitude: 44.127°

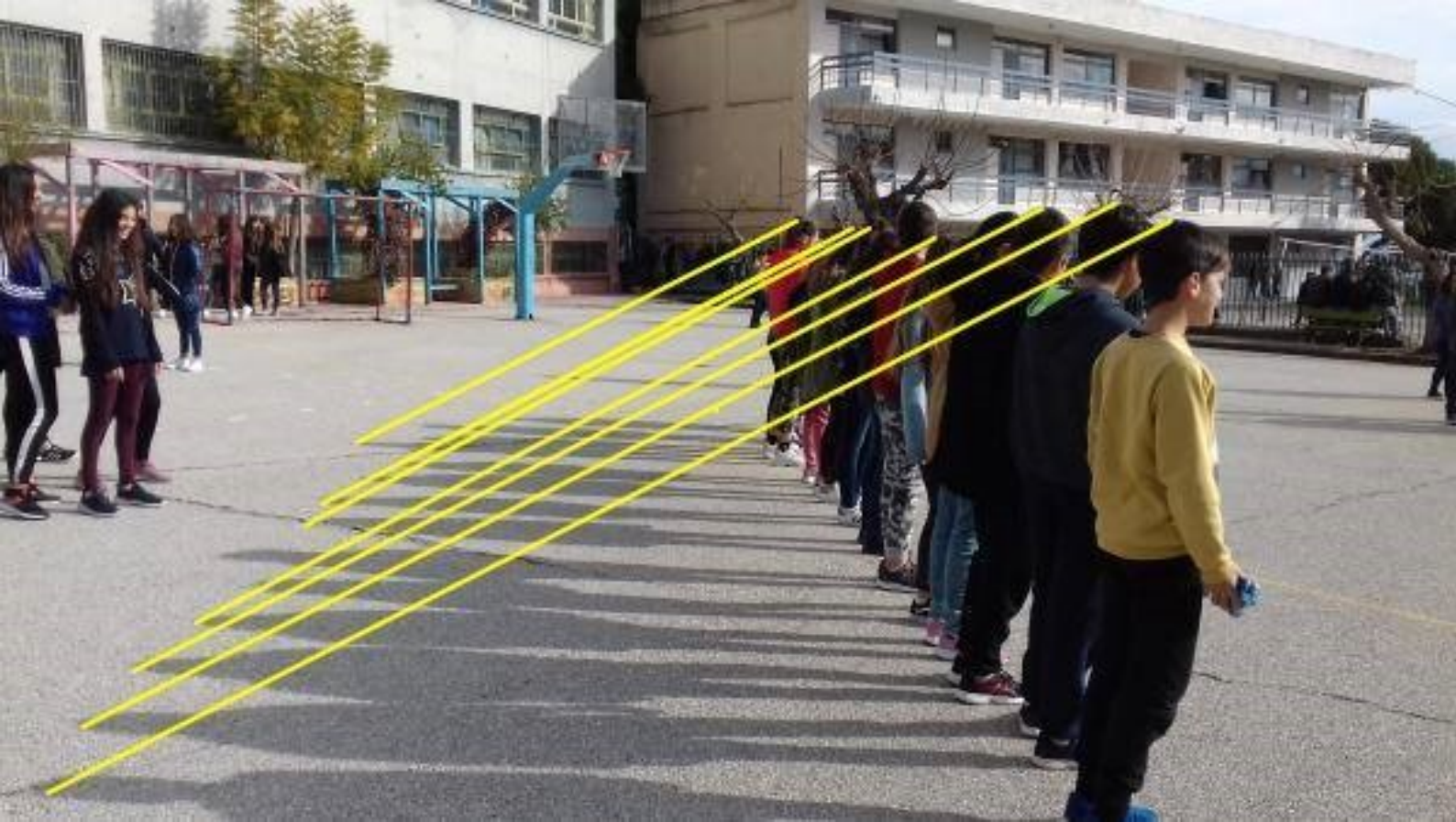
21/01/2019 (Aigio-Greece) Latitude: 38.252°

64.1° Lafrançaise

58.2° Aigio



$$\text{circumference} = \frac{360^\circ \times 653\text{km}}{64.1^\circ - 58.2^\circ} = 39844 \text{ km}$$



Athens, Greece

January 2019



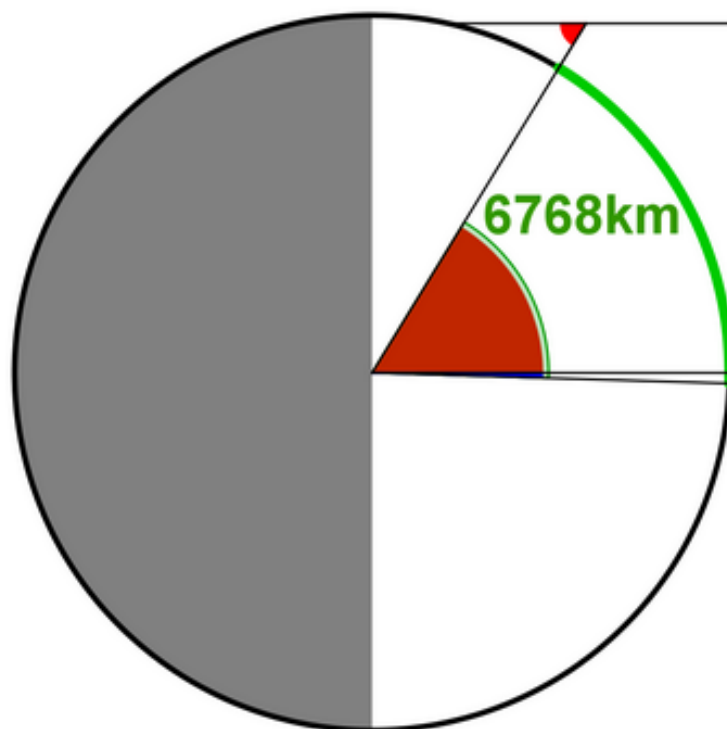
Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Athens	Greece	Experimental College Agion Anargyron	38.027	23.726

Date	Gnomon	Shadow	Angle
18 January 2018	49.0 cm	80.0 cm	58.5 °
21 January 2019	246.0 cm	384.0 cm	57.4 °

18/01/2018 (Athens-Greece) Latitude: 38.027°

18/01/2019 (Rio de Janeiro-Brazil) Latitude: -22.89°

58.5° Athens



1.7° Rio de Janeiro

$$\text{circumference} = \frac{360^\circ \times 6768\text{km}}{58.5^\circ + 1.7^\circ} = 40473 \text{ km}$$



Bizerte, Tunisia

January 2019



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

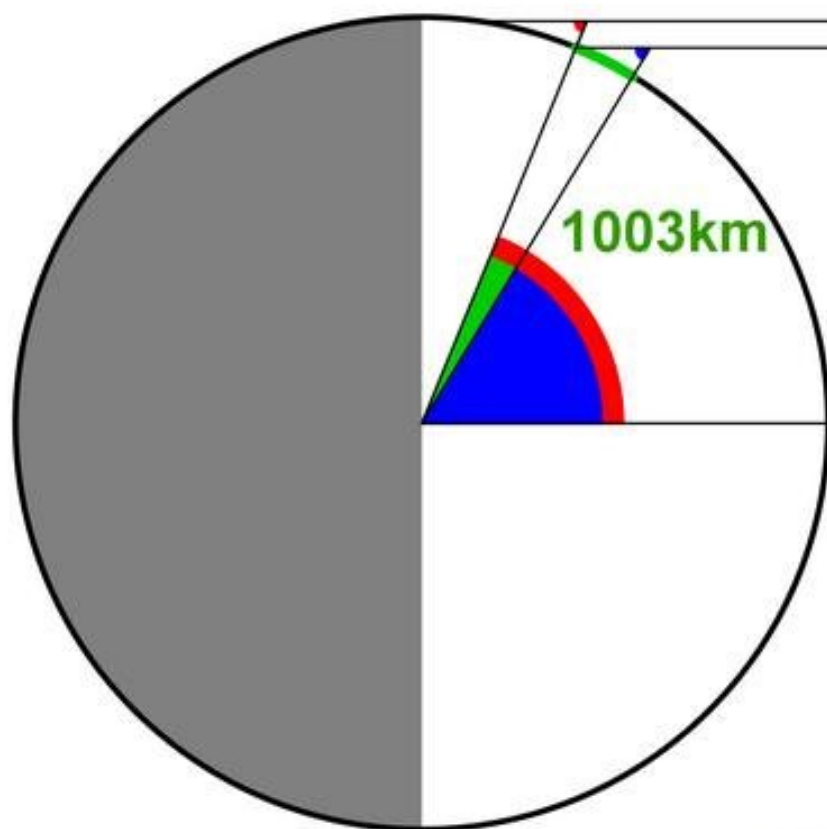
Date	Gnomon	Shadow	Angle
15 January 2019	34 cm	56 cm	58.7 °

15/01/2019 (Pogana-Romania) Latitude: 46.313°

15/01/2019 (Bizerte-Tunisia) Latitude: 37.284°

67.7° Pogana

58.7° Bizerte



$$\text{circumference} = \frac{360^\circ \times 1003\text{km}}{67.7^\circ - 58.7^\circ} = 40120 \text{ km}$$



Busteni, Romania

January 2019

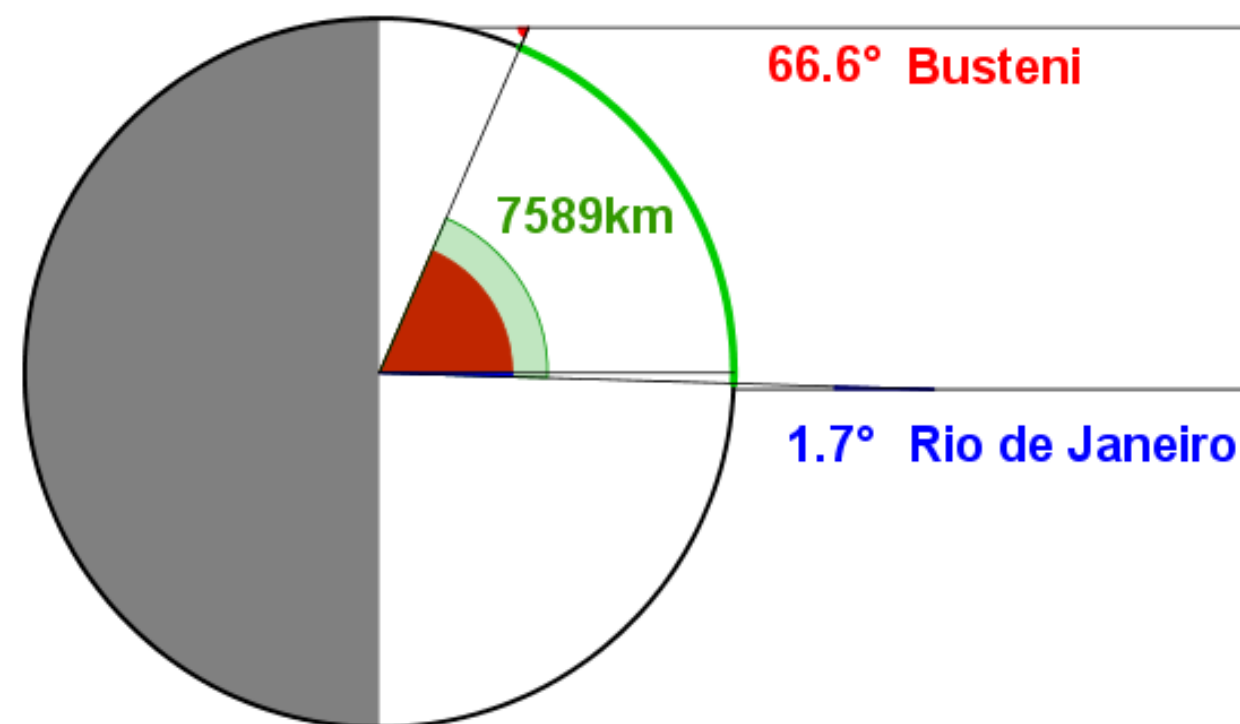


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Busteni	Romania	Colegiul Ion Kalinderu	45.416	25.535

Date	Gnomon	Shadow	Angle
10 January 2019	10.5 cm	25 cm	67.2 °
11 January 2019	3.8 cm	9 cm	67.1 °
13 January 2019	7.3 cm	17.0 cm	66.8 °
14 January 2019	17.3 cm	40 cm	66.6 °
15 January 2019	50.0 cm	114.4 cm	66.4 °
16 January 2019	50 cm	113.4 cm	66.2 °
17 January 2019	50.0 cm	112.4 cm	66.0 °
18 January 2019	50.0 cm	111.4 cm	65.8 °
21 January 2019	21.7 cm	47.0 cm	65.2 °
22 January 2019	50.0 cm	107.1 cm	65.0 °
23 January 2019	32.0 cm	67.8 cm	64.7 °
28 January 2019	50.0 cm	100.5 cm	63.5 °
29 January 2019	50.0 cm	99.4 cm	63.3 °

14/01/2019 (Busteni-Romania) Latitude: 45.416°

14/01/2019 (Rio de Janeiro-Brazil) Latitude: -22.89°



$$\text{circumference} = \frac{360^\circ \times 7589\text{km}}{66.6^\circ + 1.7^\circ} = 40001 \text{ km}$$



Guarne, Colombia

January 2019



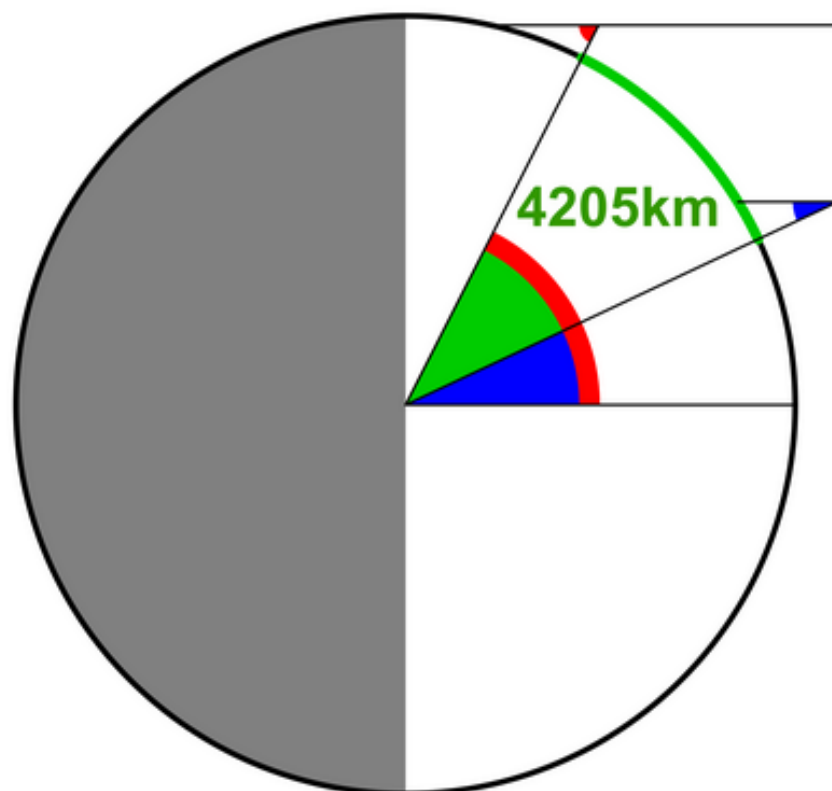
Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Guarne	Colombia	Grupo Astrofanáticos	6.274	-75.449

Date	Gnomon	Shadow	Angle
10 January 2019	73 cm	38.8 cm	28 °
11 January 2019	73.0 cm	38.9 cm	28.1 °
12 January 2019	73 cm	39 cm	28.1 °
22 January 2019	21.0 cm	10.0 cm	25.5 °
23 January 2019	21.0 cm	10.1 cm	25.7 °
24 January 2019	94.5 cm	44.5 cm	25.2 °
29 January 2019	94.5 cm	41.9 cm	23.9 °

24/01/2019 (Lafrançaise-France) Latitude: 44.127°

24/01/2019 (Guarne-Colombia) Latitude: 6.274°

63.1° Lafrançaise



25.2° Guarne

$$\text{circumference} = \frac{360^\circ \times 4205\text{km}}{63.1^\circ - 25.2^\circ} = 39942 \text{ km}$$



Hyderabad, India

January 2019



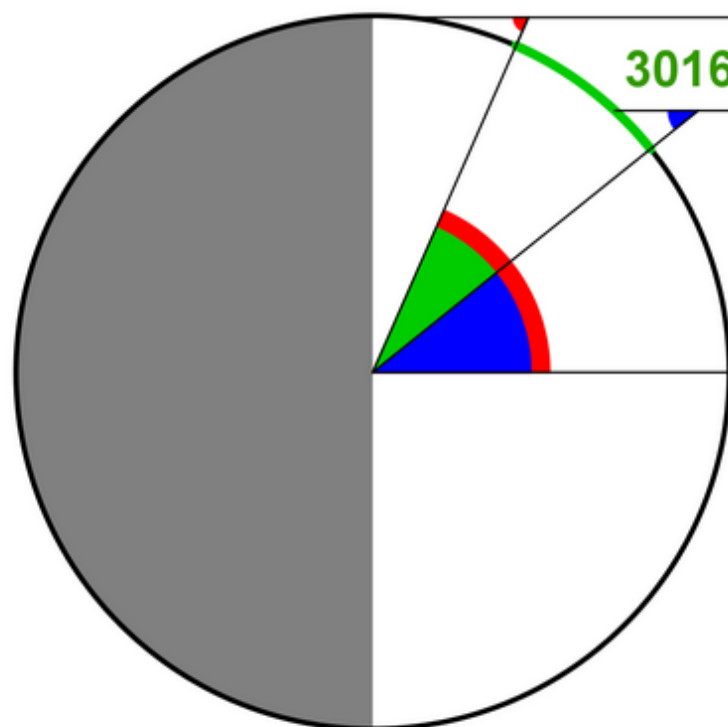
Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Hyderabad	India	Space Adhyaan	17.385	78.487

Date	Gnomon	Shadow	Angle
12 January 2019	18.8 cm	15.1 cm	38.8 °

12/01/2019 (Margineni-Slobozia-Romania) Latitude: 44.533°

12/01/2019 (Hyderabad-India) Latitude: 17.385°

66.3° Margineni-Slobozia



$$\text{circumference} = \frac{360^\circ \times 3016\text{km}}{66.3^\circ - 38.8^\circ} = 39482 \text{ km}$$



Kurukshetra, India

January 2019

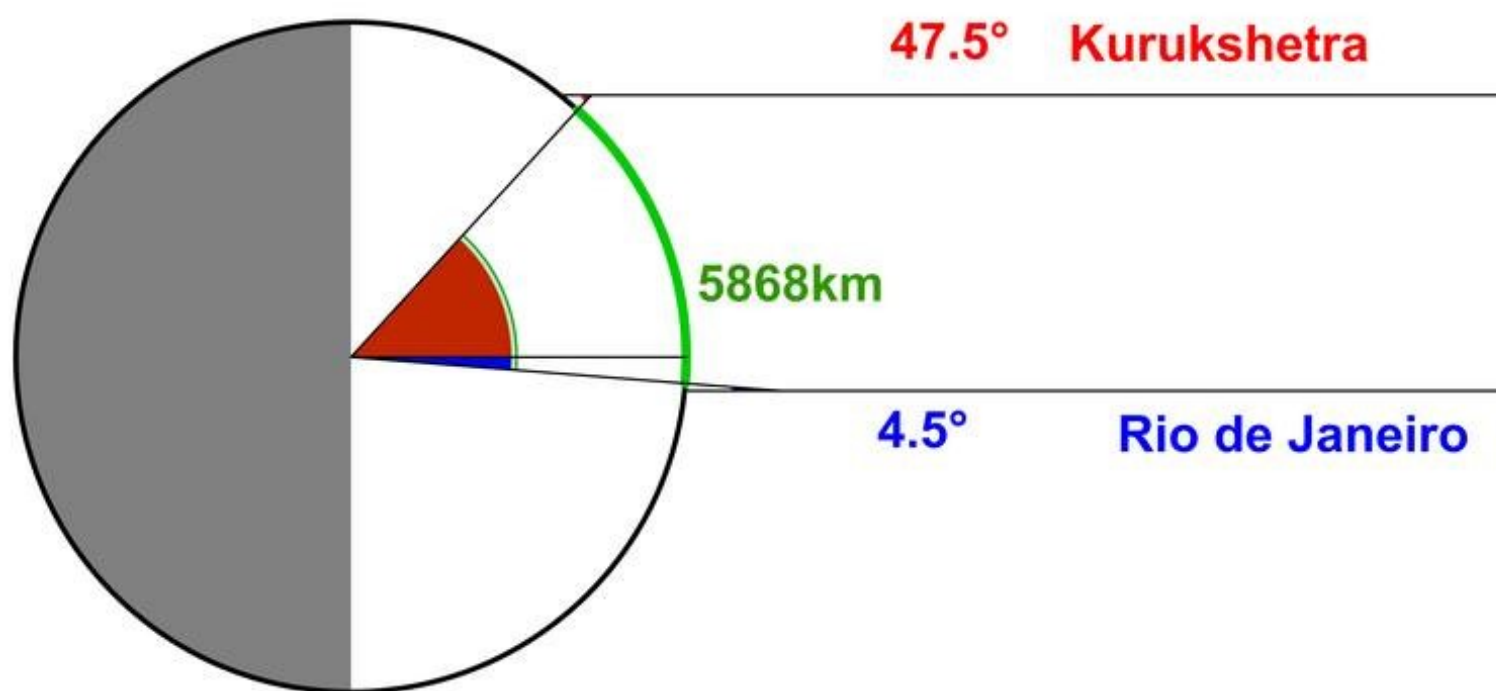


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Kurukshetra	India	Technology Education & Research Integrated Institutions	29.924	76.724

Date	Gnomon	Shadow	Angle
28 January 2019	29.0 cm	31.6 cm	47.5 °

28/01/2019 (Kurukshetra-India) Latitude: 29.924°

28/01/2019 (Rio de Janeiro-Brazil) Latitude: -22.89°



$$\text{circumference} = \frac{360^\circ \times 5868\text{km}}{47.5^\circ + 4.5^\circ} = 40625 \text{ km}$$



Lafrançaise, France

January 2019



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

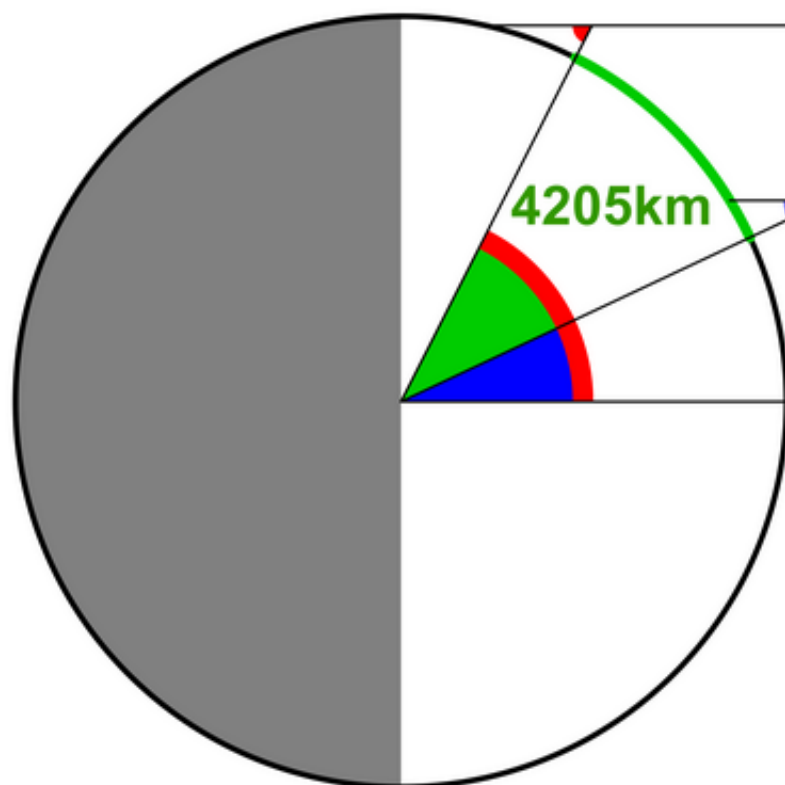
Date	Gnomon	Shadow	Angle
21 January 2019	100.0 cm	206.0 cm	64.1 °
24 January 2019	100.0 cm	197.1 cm	63.1 °
28 January 2019	100.0 cm	189.2 cm	62.1 °

24/01/2019 (Lafrançaise-France) Latitude: 44.127°

24/01/2019 (Guarne-Colombia) Latitude: 6.274°

63.1° Lafrançaise

25.2° Guarne



$$\text{circumference} = \frac{360^\circ \times 4205\text{km}}{63.1^\circ - 25.2^\circ} = 39942 \text{ km}$$



Luhari, India

January 2019

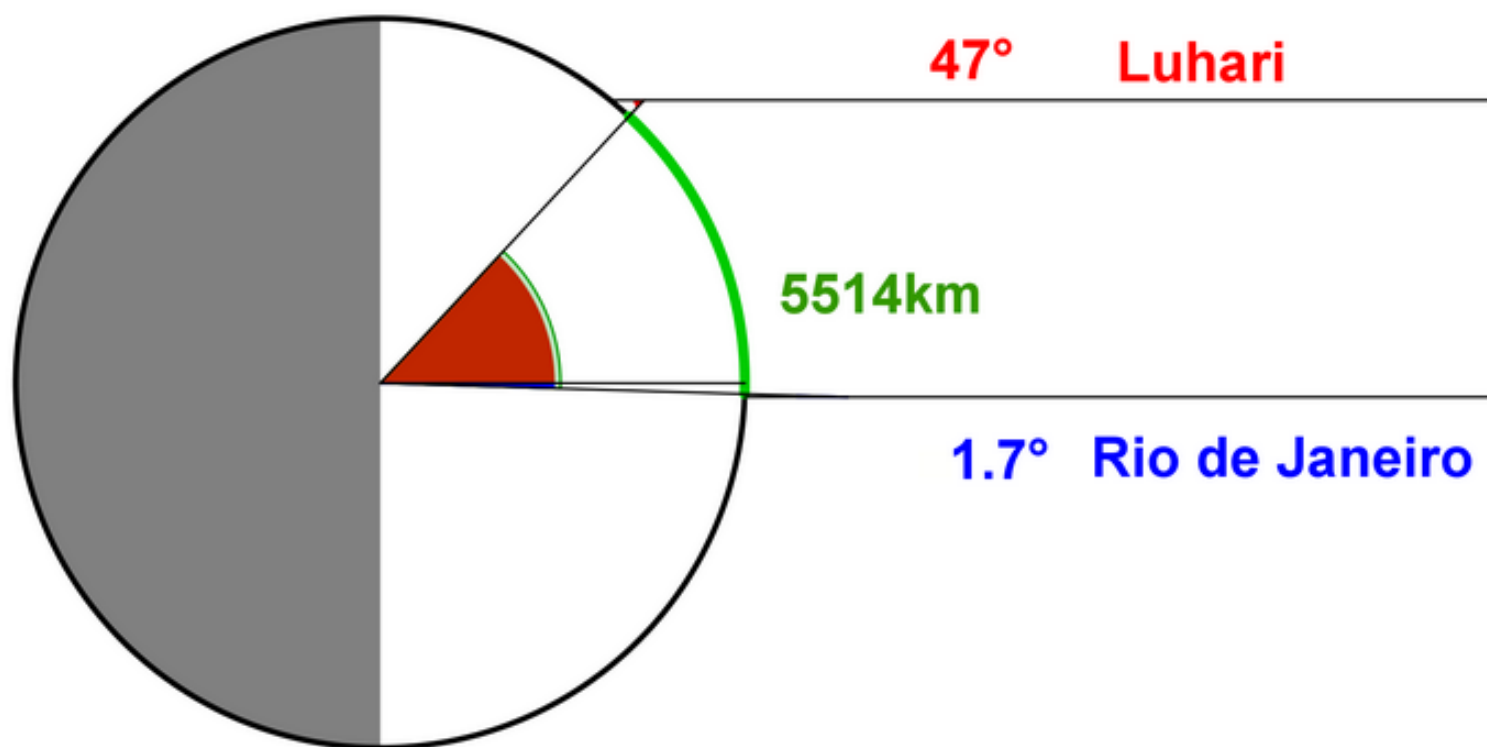


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Luhari	India	Govt SSS Luhari	26.740	77.927

Date	Gnomon	Shadow	Angle
11 January 2019	27.5 cm	29.5 cm	47 °

11/01/2019 (Luhari-India) Latitude: 26.74°

11/01/2019 (Rio de Janeiro-Brazil) Latitude: -22.89°



$$\text{circumference} = \frac{360^\circ \times 5514\text{km}}{47^\circ + 1.7^\circ} = 40761 \text{ km}$$



Mărgineni, Romania

January 2019

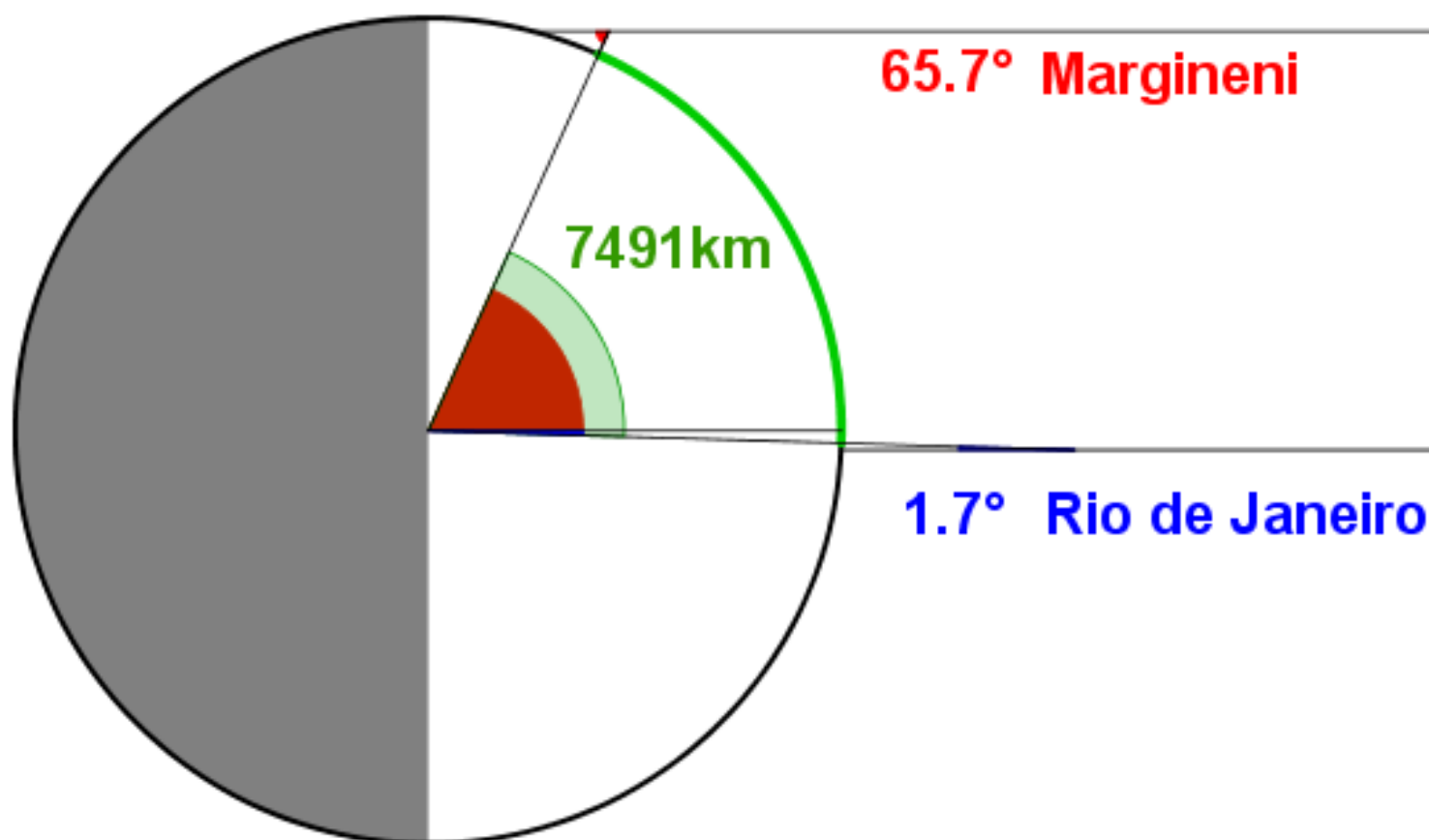


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Mărgineni	Romania	Gh. Popescu School	44.533	24.554

Date	Gnomon	Shadow	Angle
12 January 2019	50 cm	114 cm	66.3 °
14 January 2019	50.0 cm	110.5 cm	65.7 °

14/01/2019 (Margineni-Romania) Latitude: 44.533°

14/01/2019 (Rio de Janeiro-Brazil) Latitude: -22.89°



$$\text{circumference} = \frac{360^\circ \times 7491\text{km}}{65.7^\circ + 1.7^\circ} = 40011 \text{ km}$$



ERATOSTHENES



Piranguinho, Brazil

January 2019

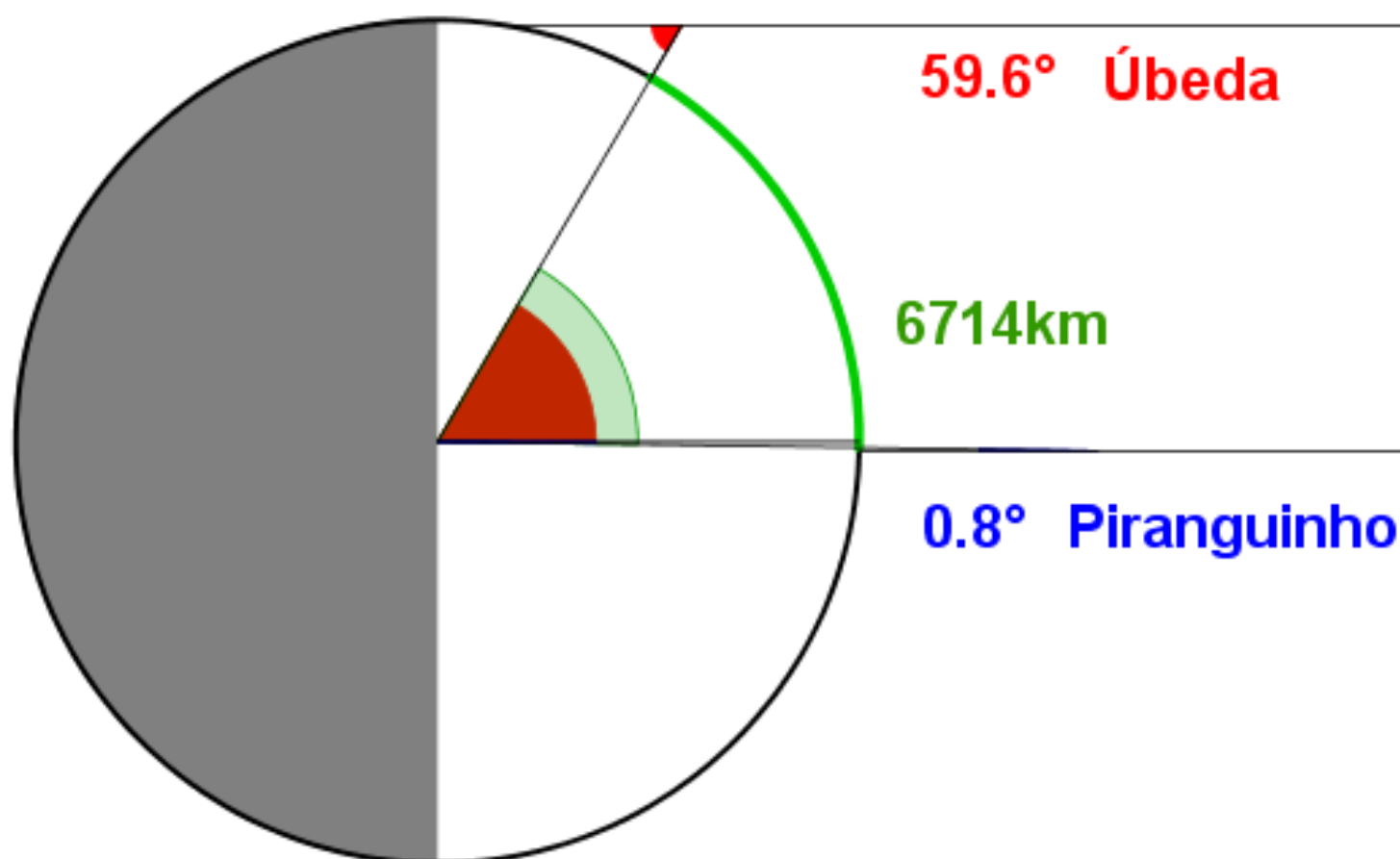


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Piranguinho	Brazil	Universidade Federal de Itajubá	-22.411	-45.535

Date	Gnomon	Shadow	Angle
11 January 2019	70 cm	-1 cm	-0.8 °
17 January 2019	70.0 cm	-1.7 cm	-1.4 °

11/01/2019 (Úbeda-Spain) Latitude: 38.017°

11/01/2019 (Piranguinho-Brazil) Latitude: -22.411°



$$\text{circumference} = \frac{360^\circ \times 6714\text{km}}{59.6^\circ + 0.8^\circ} = 40017 \text{ km}$$



17.01.2019



Pogana, Romania

January 2019



Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Pogana	Romania	Scoala Gimnaziala Nr.1 Pogana	46.313	27.575

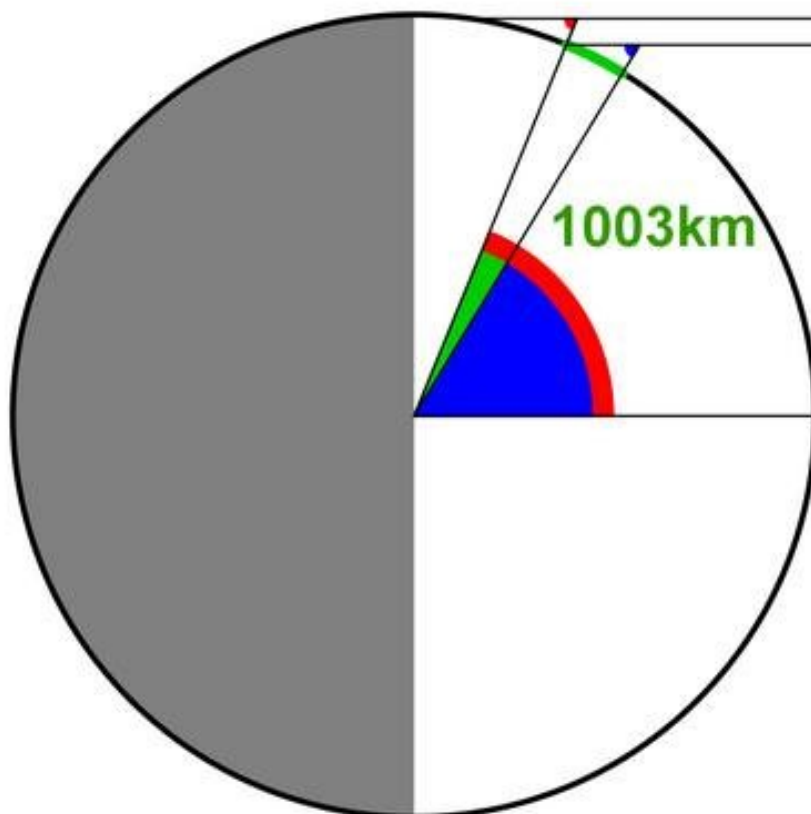
Date	Gnomon	Shadow	Angle
13 January 2019	67 cm	175 cm	69.1 °
15 January 2019	33.5 cm	81.7 cm	67.7 °
18 January 2019	39.6 cm	91.5 cm	66.6 °

15/01/2019 (Pogana-Romania) Latitude: 46.313°

15/01/2019 (Bizerte-Tunisia) Latitude: 37.284°

67.7° Pogana

58.7° Bizerte



$$\text{circumference} = \frac{360^\circ \times 1003\text{km}}{67.7^\circ - 58.7^\circ} = 40120 \text{ km}$$



Rio de Janeiro CENOM, Brazil

January 2019

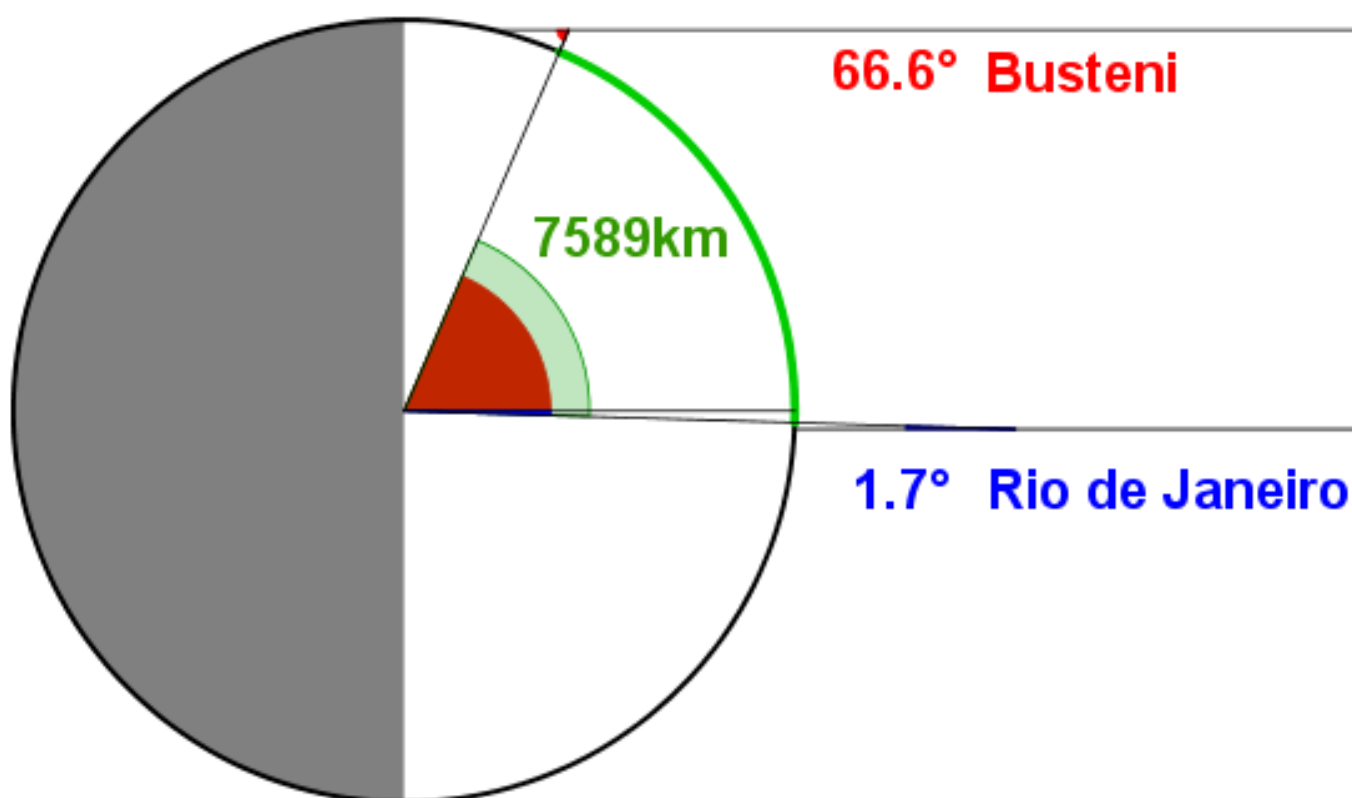


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Rio de Janeiro	Brazil	Centro Educacional Nosso Mundo	-22.890	-43.317

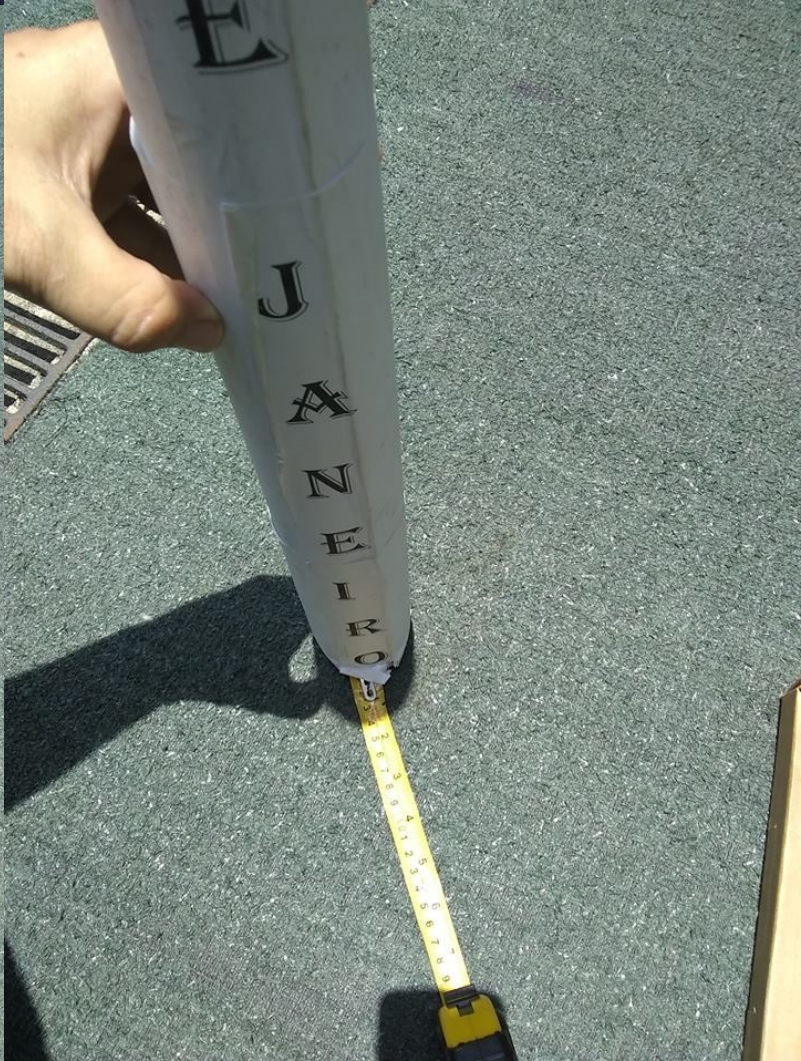
Date	Gnomon	Shadow	Angle
03 January 2019	100.0 cm	2.0 cm	1.1 °
10 January 2019	100 cm	-3 cm	-1.7 °
11 January 2019	100 cm	-3 cm	-1.7 °
14 January 2019	100.0 cm	-3.0 cm	-1.7 °
15 January 2019	100 cm	-3 cm	-1.7 °
16 January 2019	100.0 cm	-3.5 cm	-2.0 °
18 January 2019	100.0 cm	-3.0 cm	-1.7 °
24 January 2019	100.0 cm	-4.0 cm	-2.3 °
28 January 2019	38.0 cm	-3.0 cm	-4.5 °
30 January 2019	100.0 cm	-4.0 cm	-2.3 °
31 January 2019	100.0 cm	-5.0 cm	-2.9 °

14/01/2019 (Busteni-Romania) Latitude: 45.416°

14/01/2019 (Rio de Janeiro-Brazil) Latitude: -22.89°



$$\text{circumference} = \frac{360^\circ \times 7589\text{km}}{66.6^\circ + 1.7^\circ} = 40001 \text{ km}$$



Rio de Janeiro Méier, Brazil

January 2019

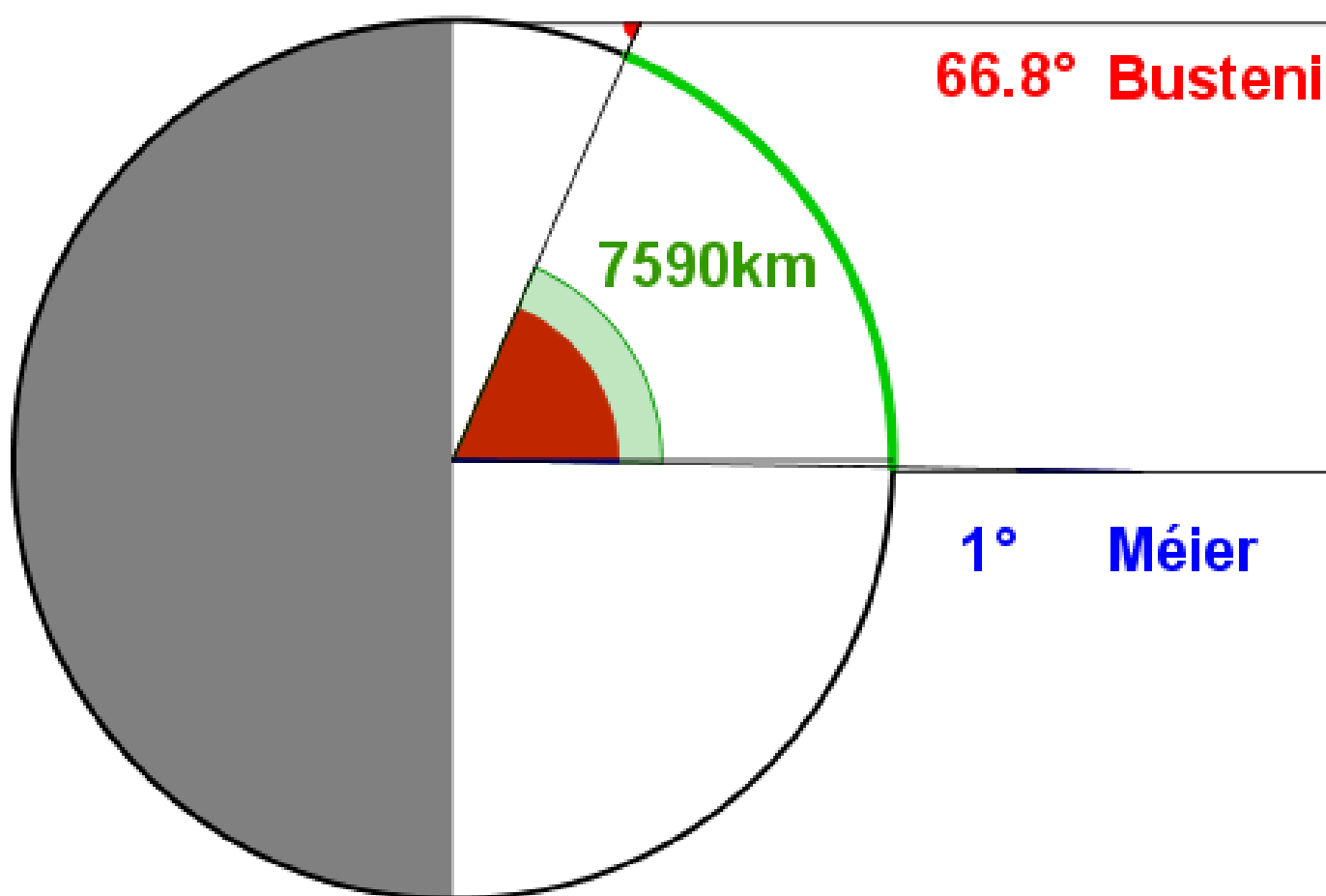


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Rio de Janeiro	Brazil	Escola Municipal Bento Ribeiro, Méier	-22.904	-43.280

Date	Gnomon	Shadow	Angle
12 January 2019	22 cm	-1.5 cm	-3.9 °
13 January 2019	30 cm	-0.5 cm	-1 °

13/01/2019 (Busteni-Romania) Latitude: 45.416°

13/01/2019 (Méier-Brazil) Latitude: -22.904°



$$\text{circumference} = \frac{360^\circ \times 7590\text{km}}{66.8^\circ + 1^\circ} = 40301 \text{ km}$$



Úbeda, Spain

January 2019

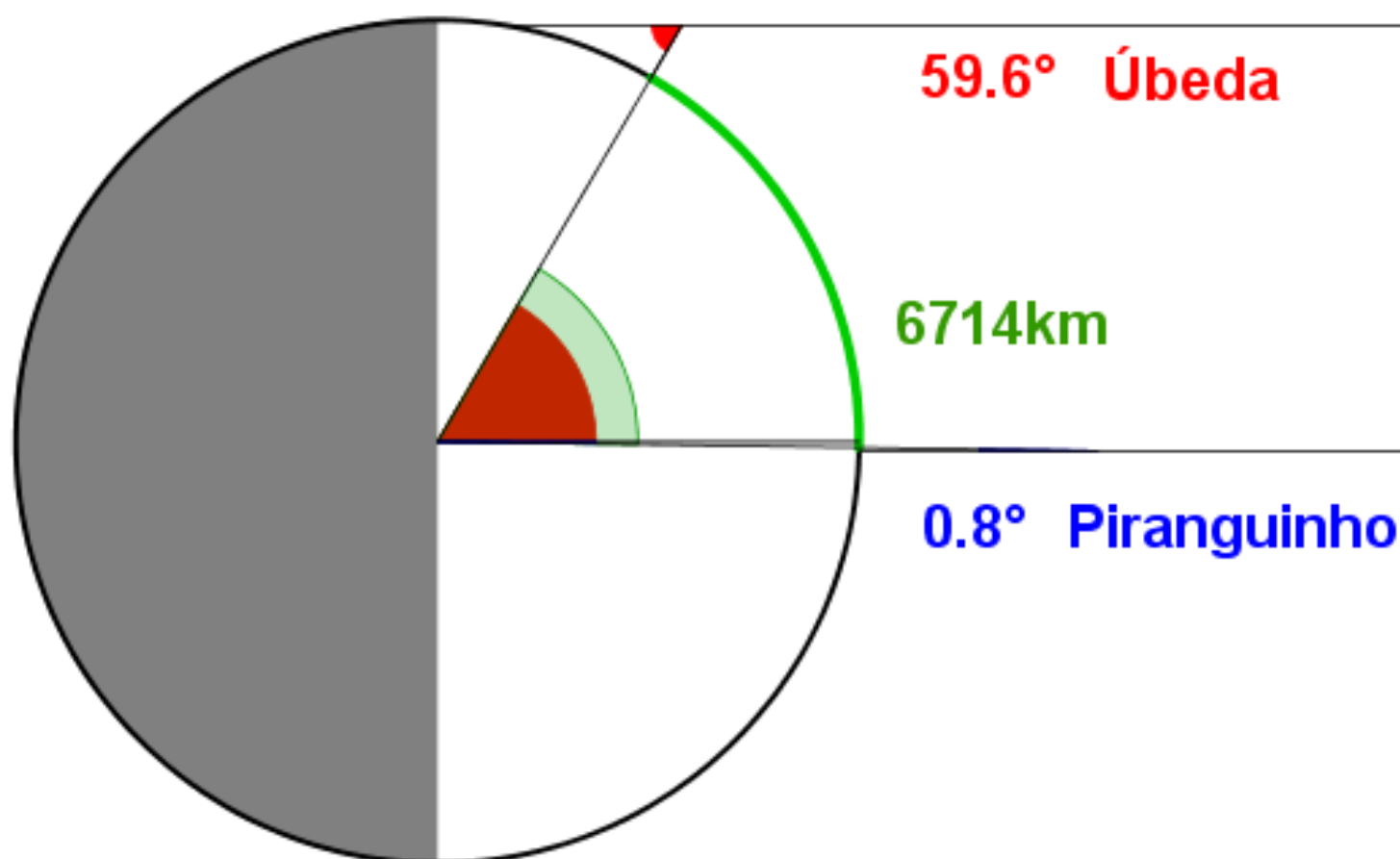


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Úbeda	Spain	Colegio Salesiano Santo Domingo Savio	38.017	-3.367

Date	Gnomon	Shadow	Angle
11 January 2019	208 cm	354.5 cm	59.6 °
12 January 2019	55.0 cm	90.0 cm	58.6 °
18 January 2019	87.1 cm	142.2 cm	58.5 °
25 January 2019	87.1 cm	132.7 cm	56.7 °

11/01/2019 (Úbeda-Spain) Latitude: 38.017°

11/01/2019 (Piranguinho-Brazil) Latitude: -22.411°



$$\text{circumference} = \frac{360^\circ \times 6714\text{km}}{59.6^\circ + 0.8^\circ} = 40017 \text{ km}$$



Yamunanagar, India

January 2019

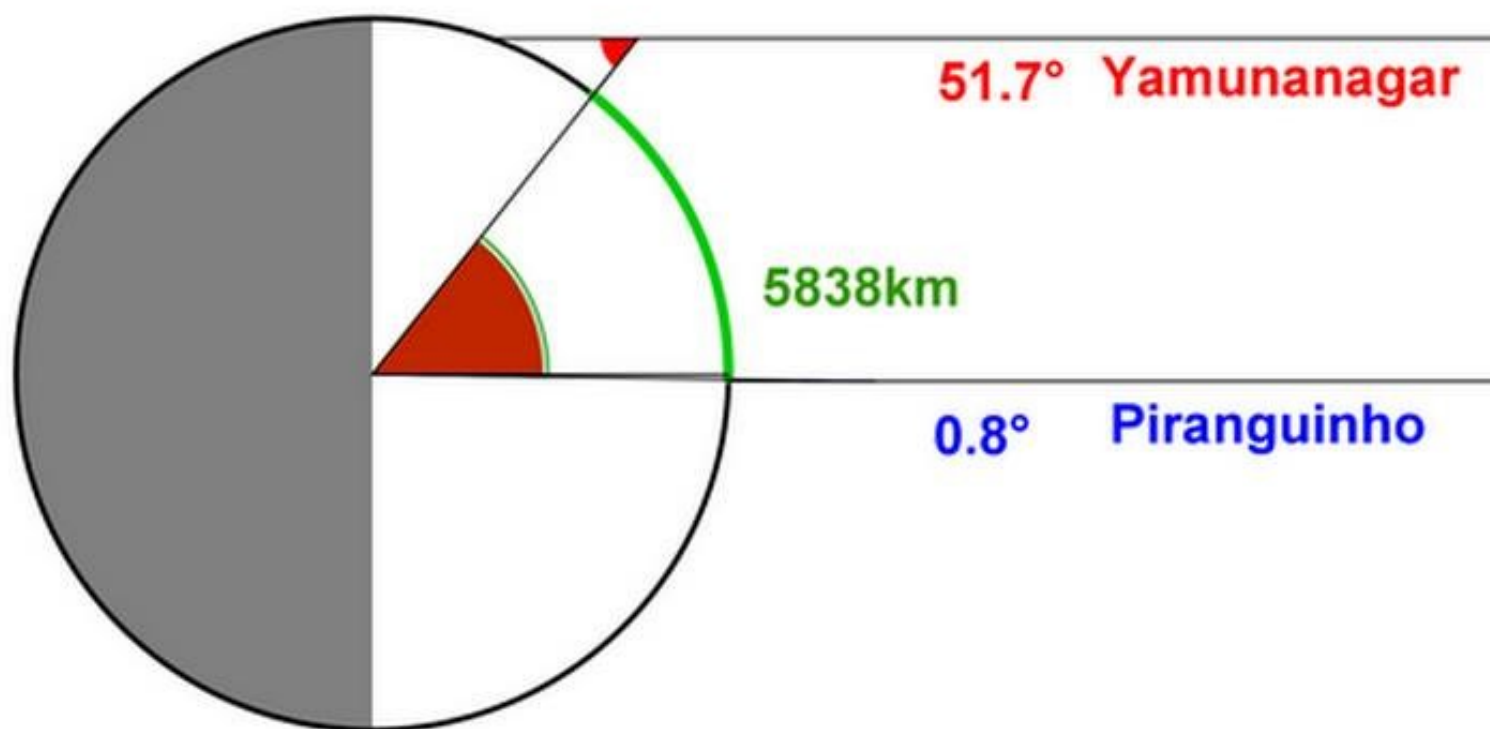


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Yamunanagar	India	Mukand Lal PS Sarojini Colony	30.133	77.283

Date	Gnomon	Shadow	Angle
11 January 2019	45 cm	57 cm	51.7 °

11/01/2019 (Yamunanagar-India) Latitude: 30.133°

11/01/2019 (Piranguinho-Brazil) Latitude: -22.411°



$$\text{circumference} = \frac{360^\circ \times 5838\text{km}}{51.7^\circ + 0.8^\circ} = 40032 \text{ km}$$



