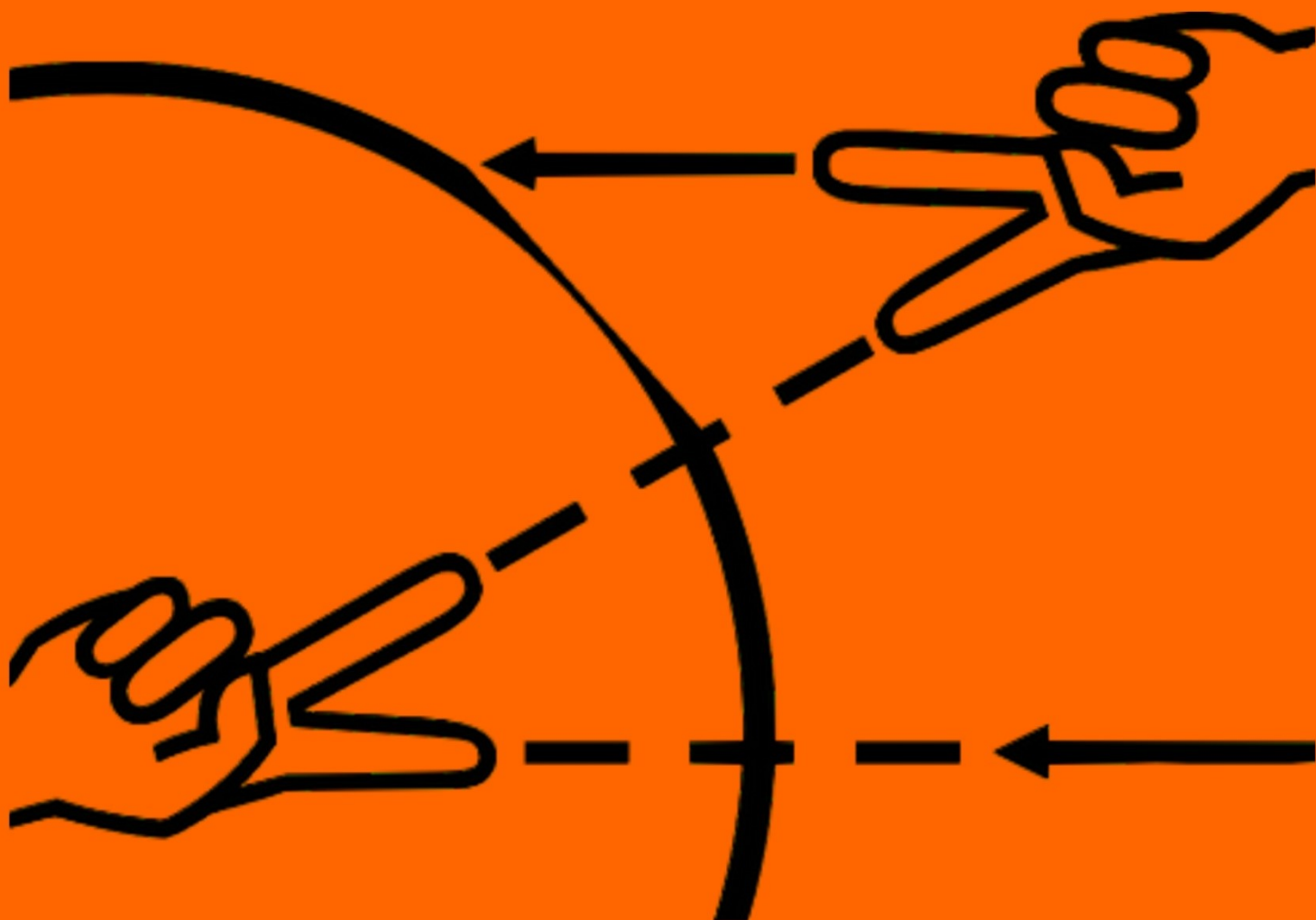


# Eratosthenes



**3** Continents

**7** Countries

**11** Schools

**48** Measures

**3** Continents

**7** Countries

**11** Schools

**48** Measures

BRAZIL (2)

Piranguinho, Rio de Janeiro

COLOMBIA (1)

Guarne

FRANCE (1)

Lafrançaise

GREECE (4)

Aigio, Athens, Ilion, Petroupoli

PAKISTAN (1)











Jajjah Abbasian

ROMANIA (1)

Busteni


SPAIN (1)

Úbeda

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
	Busteni	Romania	Colegiul Ion Kalinderu	45.416	25.535
	Guarne	Colombia	Grupo Astrofanáticos	6.274	-75.449
	Ilion	Greece	11th JuniorHigh School of Ilion	38.033	23.697
	Jajjah Abbasian	Pakistan	Government Boys Secondary School	28.754	70.569
	Lafrançaise	France	Collège Antonin Perbosc	44.127	1.237
	Petroupoli	Greece	4o Junior High School	38.036	23.674
	Piranguinho	Brazil	Universidade Federal de Itajubá	-22.411	-45.535
	Rio de Janeiro	Brazil	Centro Educacional Nosso Mundo	-22.890	-43.317
	Úbeda	Spain	Colegio Salesiano Santo Domingo Savio	38.017	-3.367

# Aigio, Greece



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

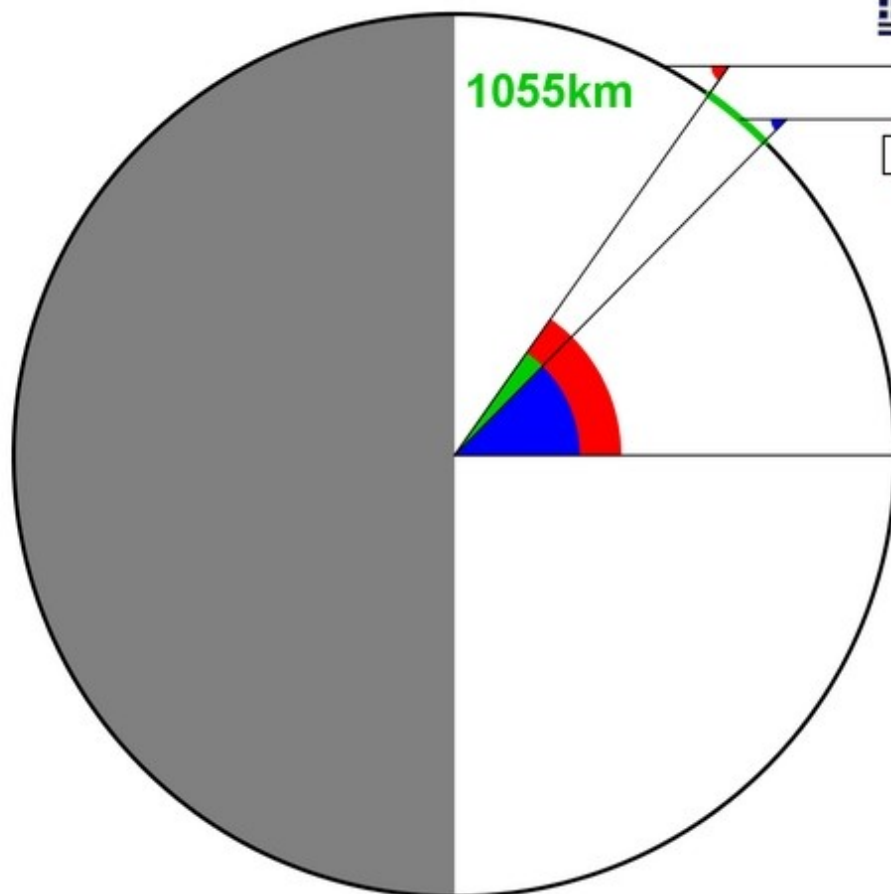
Date	Gnomon	Shadow	Angle
03 February 2020	10.5cm	14.9cm	54.8°
26 February 2020	30.0cm	32.3cm	47.1°

03/02/2020 (Aigio-Greece) Latitude: 38.252°

03/02/2020 (Jajjah Abbasian-Pakistan) Latitude: 28.754°

 54.8° Aigio

 45.3° Jajjah Abbasian



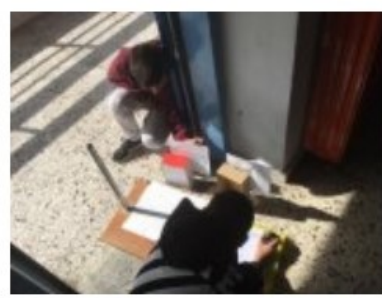
$$\text{circumference} = \frac{360^\circ \times 1055\text{km}}{54.8^\circ - 45.3^\circ} = 39979 \text{ km}$$

Distance	Angle
circumference	360°
1055km	54.8° - 45.3°





# Athens, Greece



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

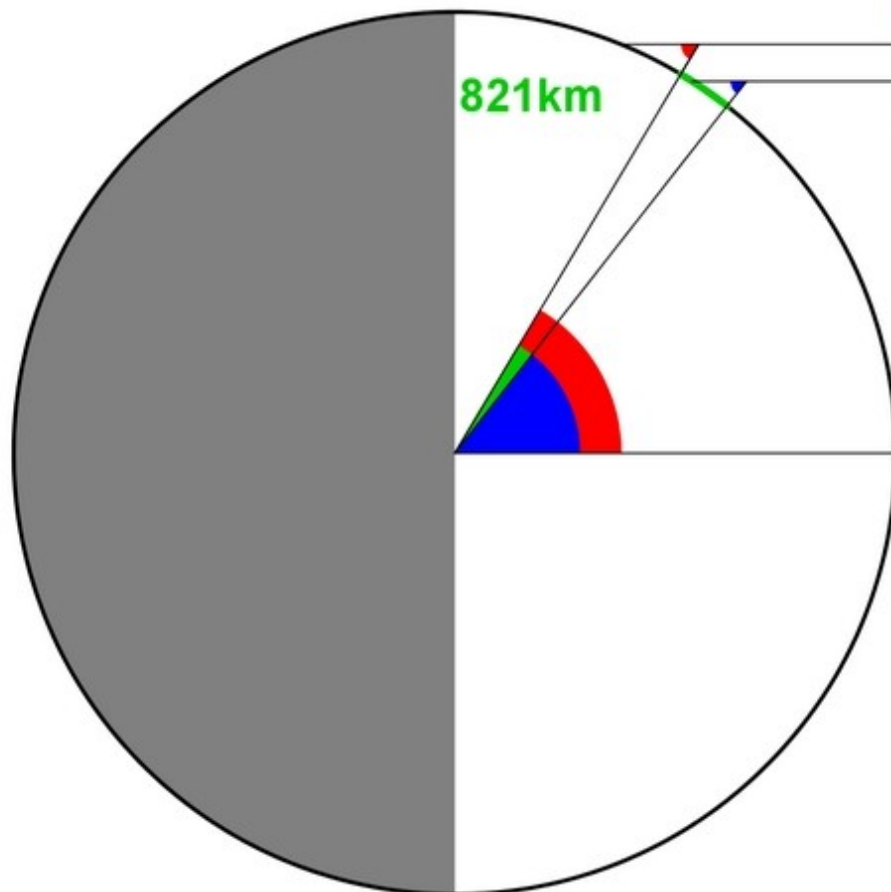
Date	Gnomon	Shadow	Angle
12 February 2020	49.0cm	62.5cm	51.9°

12/02/2020 (Busteni-Romania) Latitude: 45.416°

12/02/2020 (Athens-Greece) Latitude: 38.027°

 59.2° Busteni

 51.9° Athens



$$\text{circumference} = \frac{360^\circ \times 821\text{km}}{59.2^\circ - 51.9^\circ} = 40488 \text{ km}$$


Distance	Angle
circumference	360°
821km	59.2° - 51.9°





# Busteni, Romania



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

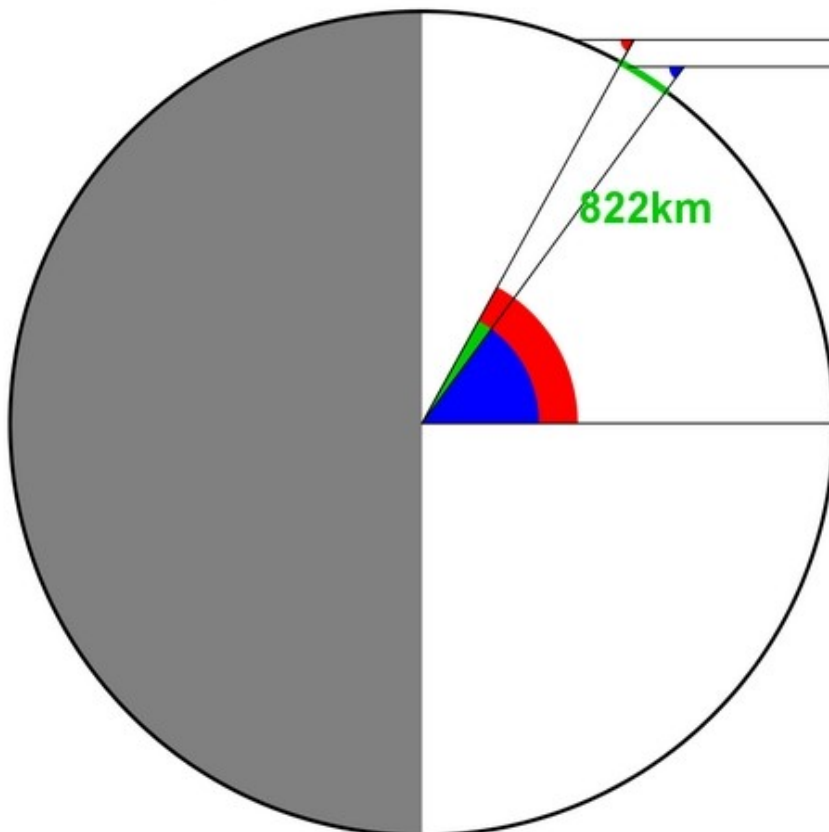
Date	Gnomon	Shadow	Angle
01 February 2020	15.6cm	30.0cm	62.5°
03 February 2020	50.0cm	94.0cm	62.0°
04 February 2020	14.5cm	27.0cm	61.8°
05 February 2020	49.0cm	90.0cm	61.4°
06 February 2020	15.6cm	28.3cm	61.1°
07 February 2020	14cm	25cm	60.8°
10 February 2020	50cm	86.2cm	59.9°
11 February 2020	50.0cm	85.1cm	59.6°
12 February 2020	50.0cm	84.0cm	59.2°
13 February 2020	50.0cm	82.9cm	58.9°
18 February 2020	50cm	77.6cm	57.2°
20 February 2020	100.0cm	151.1cm	56.5°
21 February 2020	50.0cm	74.5cm	56.1°
25 February 2020	50.0cm	70.6cm	54.7°
26 February 2020	50.0cm	69.6cm	54.3°
27 February 2020	50.0cm	68.7cm	54.0°

06/02/2020 (Busteni-Romania) Latitude: 45.416°

06/02/2020 (Úbeda-Spain) Latitude: 38.017°

 **61.1° Busteni**

 **53.7° Úbeda**



Distance	Angle
circumference	360°
822km	61.1° - 53.7°

$$\text{circumference} = \frac{360^\circ \times 822\text{km}}{61.1^\circ - 53.7^\circ} = 39989 \text{ km}$$








# Guarne, Colombia

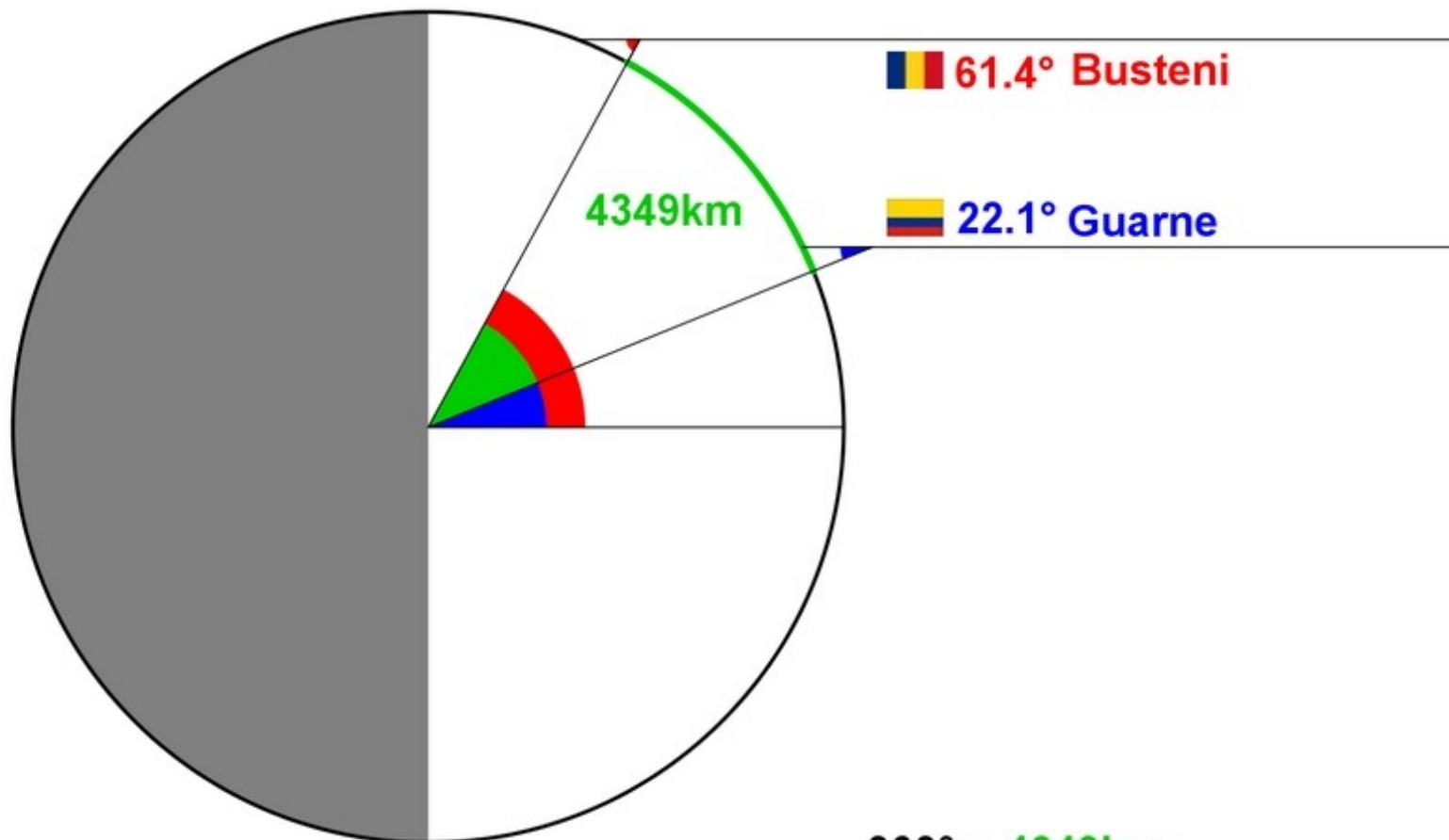


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Guarne	Colombia	Grupo Astrofanáticos	6.274	-75.449

Date	Gnomon	Shadow	Angle
05 February 2020	30.5cm	12.4cm	22.1°
25 February 2020	30.5cm	8.3cm	15.2°

05/02/2020 (Busteni-Romania) Latitude: 45.416°

05/02/2020 (Guarne-Colombia) Latitude: 6.274°



$$\text{circumference} = \frac{360^\circ \times 4349\text{km}}{61.4^\circ - 22.1^\circ} = 39838 \text{ km}$$

Distance	Angle
circumference	360°
4349km	61.4° - 22.1°







# Ilion, Greece

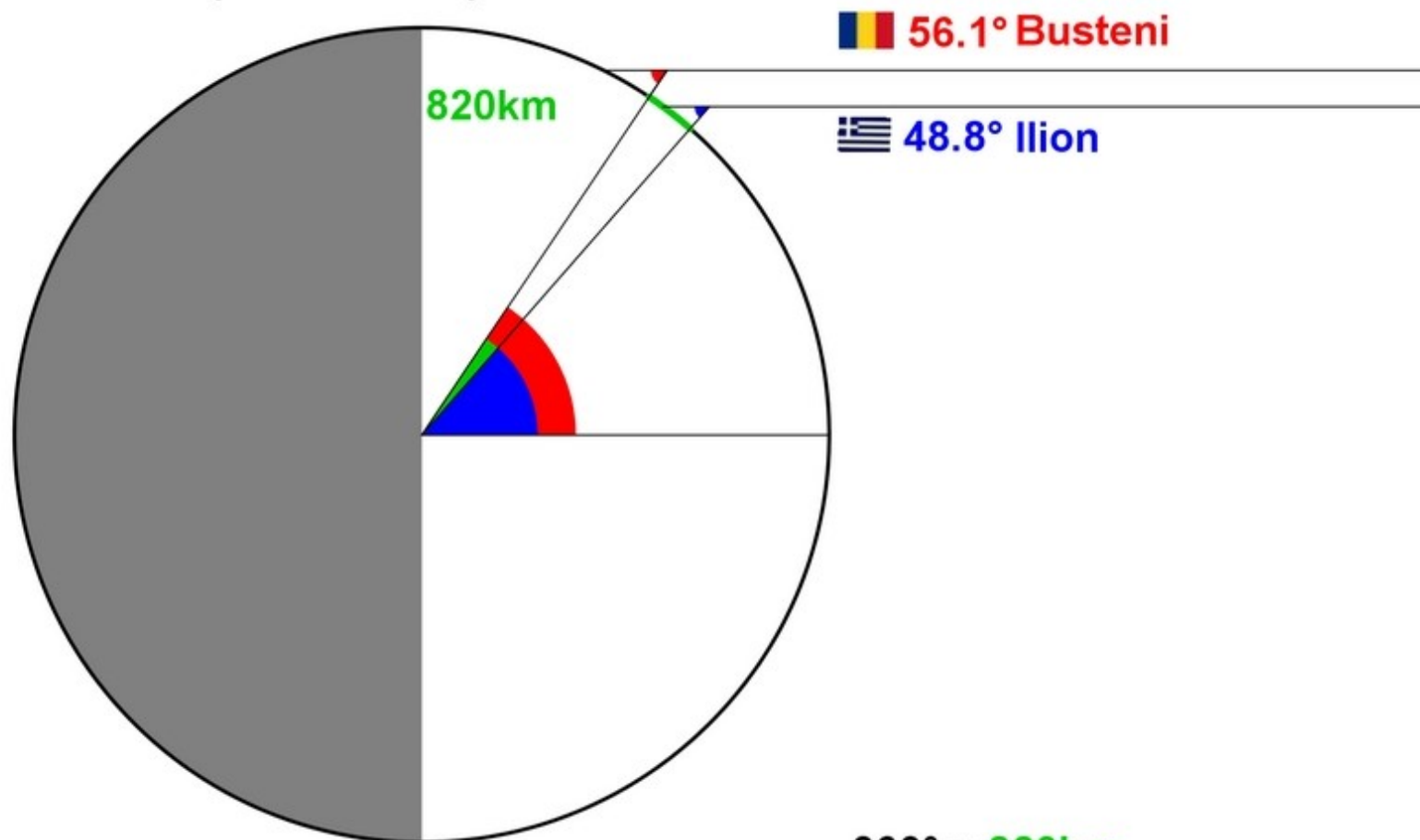


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Ilion	Greece	11th JuniorHigh School of Ilion	38.033	23.697

Date	Gnomon	Shadow	Angle
07 February 2020	60cm	80.5cm	53.3°
21 February 2020	60.0cm	68.5cm	48.8°

21/02/2020 (Busteni-Romania) Latitude: 45.416°

21/02/2020 (Ilion-Greece) Latitude: 38.033°



$$\text{circumference} = \frac{360^\circ \times 820\text{km}}{56.1^\circ - 48.8^\circ} = 40438 \text{ km}$$

Distance	Angle
circumference	360°
820km	56.1° - 48.8°







# Jajjah Abbasian, Pakistan



Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Jajjah Abbasian	Pakistan	Government Boys Secondary School	28.754	70.569

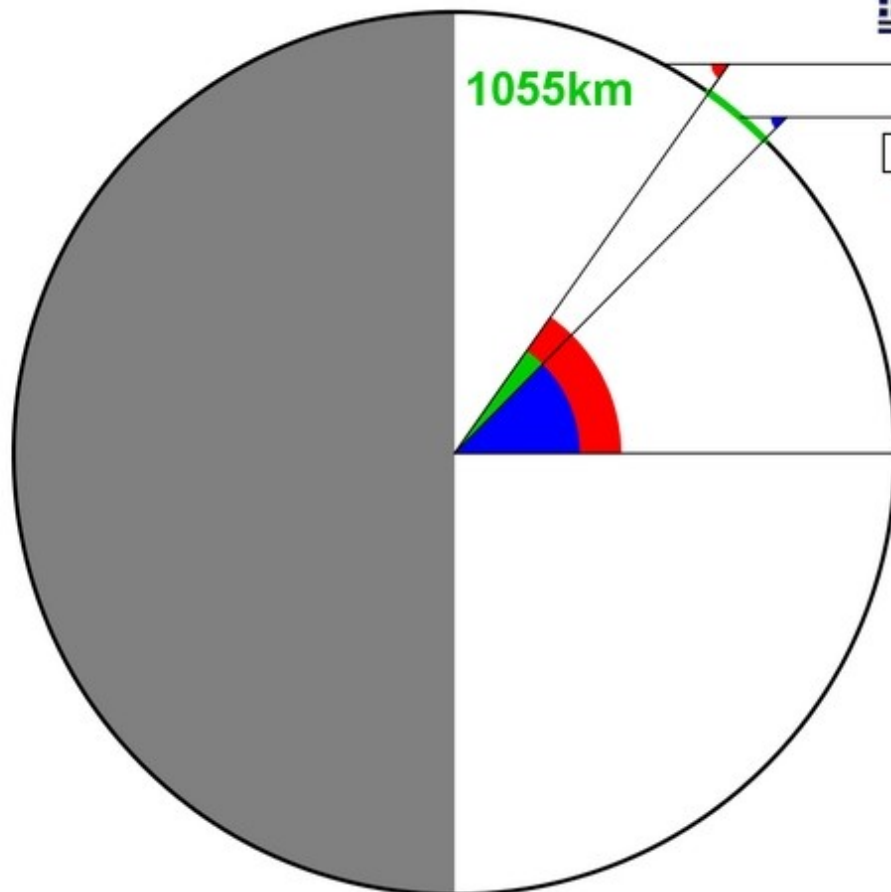
Date	Gnomon	Shadow	Angle
03 February 2020	100.0cm	101.2cm	45.3°
06 February 2020	100.0cm	98.1cm	44.5°
10 February 2020	100cm	94cm	43.2°
11 February 2020	100.0cm	92.9cm	42.9°
12 February 2020	100cm	122.5cm	50.8°
18 February 2020	100cm	85.6cm	40.6°

03/02/2020 (Aigio-Greece) Latitude: 38.252°

03/02/2020 (Jajjah Abbasian-Pakistan) Latitude: 28.754°

54.8° Aigio

45.3° Jajjah Abbasian



$$\text{circumference} = \frac{360^\circ \times 1055\text{km}}{54.8^\circ - 45.3^\circ} = 39979 \text{ km}$$

Distance	Angle
circumference	360°
1055km	54.8° - 45.3°







# Lafrançaise, France

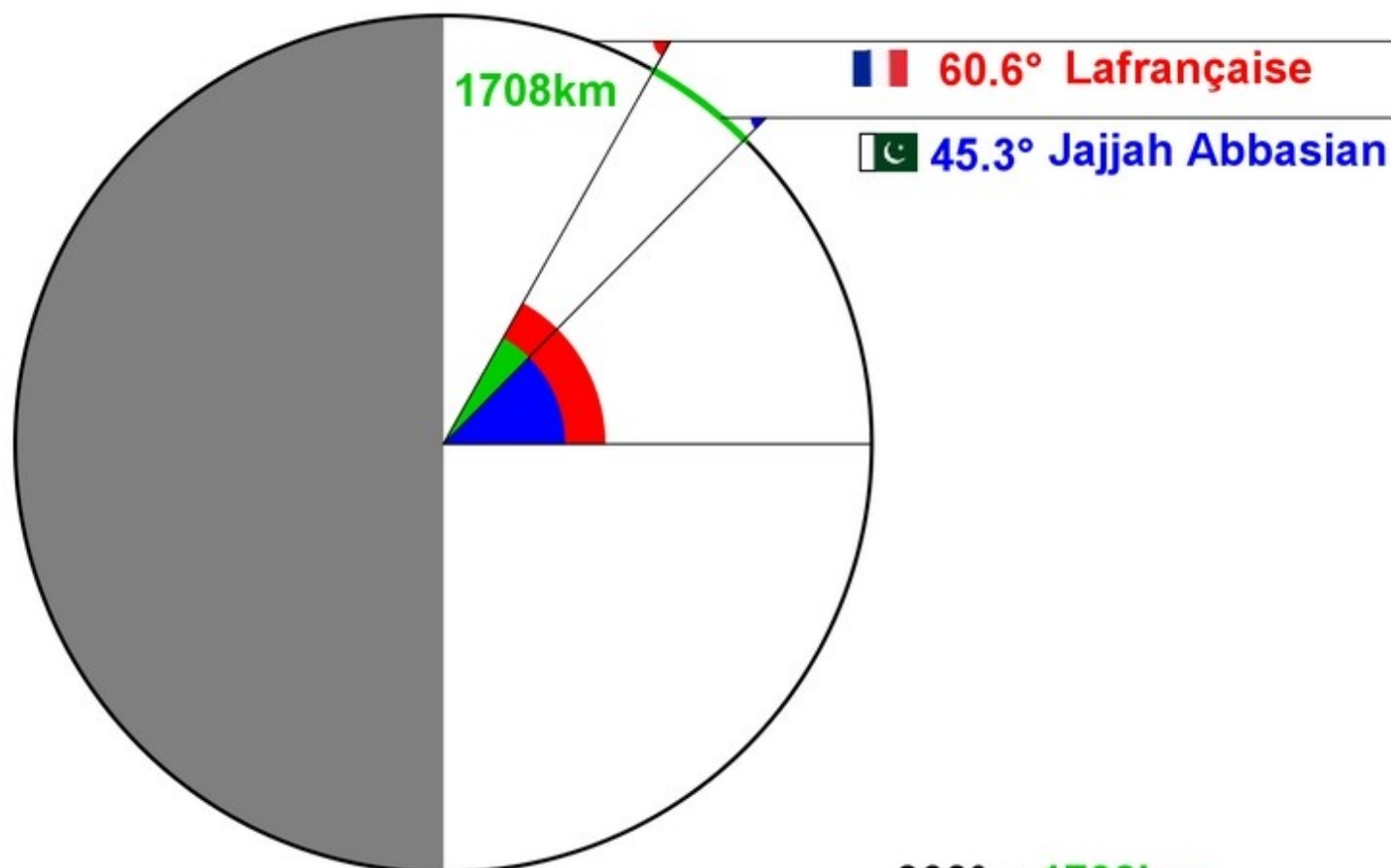


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Lafrançaise	France	Collège Antonin Perbosc	44.127	1.237

Date	Gnomon	Shadow	Angle
03 February 2020	100.0cm	177.5cm	60.6°
07 February 2020	100cm	169.9cm	59.5°
24 February 2020	100.0cm	136.0cm	53.7°

03/02/2020 (Lafrançaise-France) Latitude: 44.127°

03/02/2020 (Jajjah Abbasian-Pakistan) Latitude: 28.754°



$$\text{circumference} = \frac{360^\circ \times 1708\text{km}}{60.6^\circ - 45.3^\circ} = 40188 \text{ km}$$


Distance	Angle
circumference	360°
1708km	60.6° - 45.3°





# Petroupoli, Greece

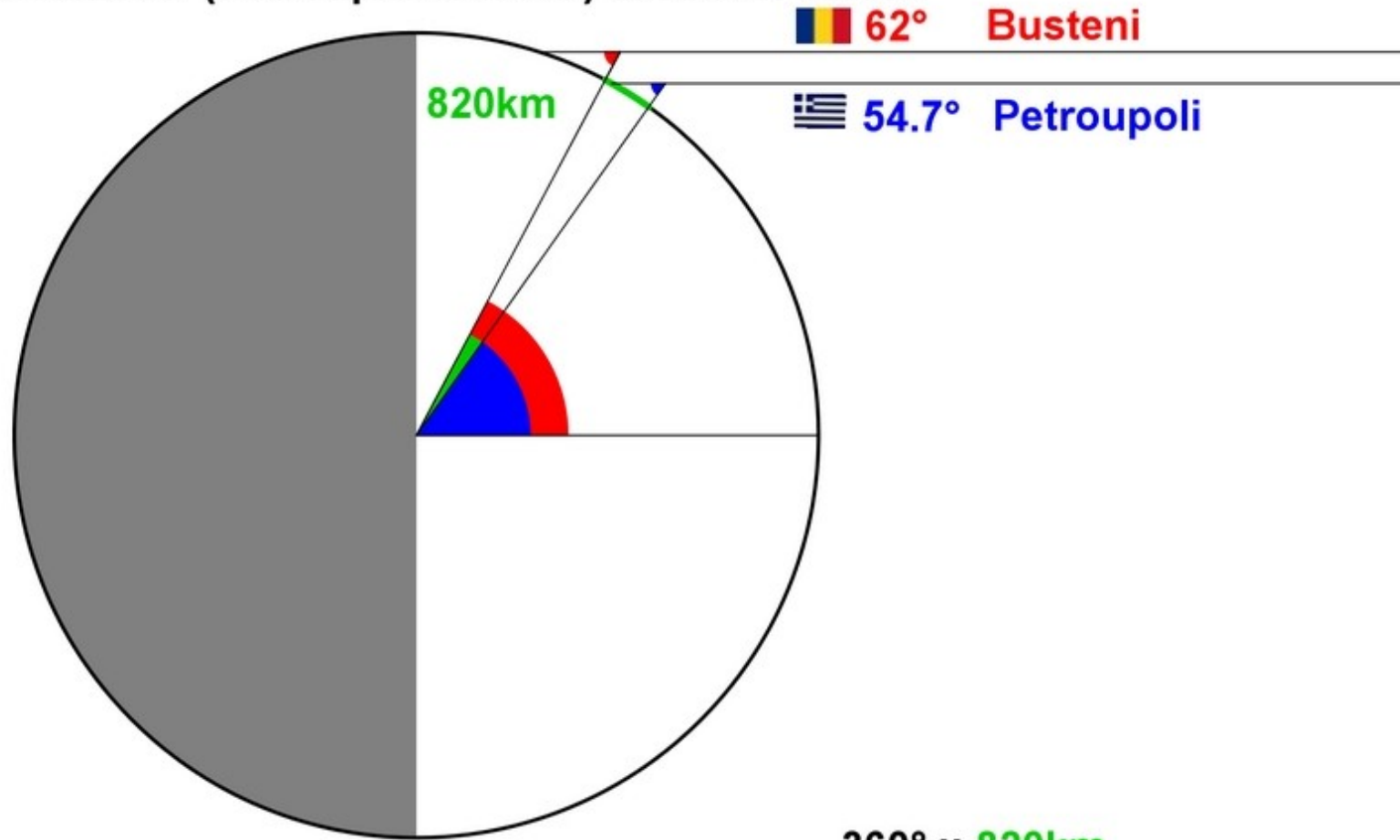


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Petroupoli	Greece	4o Junior High School	38.036	23.674

Date	Gnomon	Shadow	Angle
03 February 2020	59.5cm	84.0cm	54.7°

03/02/2020 (Busteni-Romania) Latitude: 45.416°

03/02/2020 (Petroupoli-Greece) Latitude: 38.036°



 **62° Busteni**

 **54.7° Petroupoli**

$$\text{circumference} = \frac{360^\circ \times 820\text{km}}{62^\circ - 54.7^\circ} = 40438 \text{ km}$$

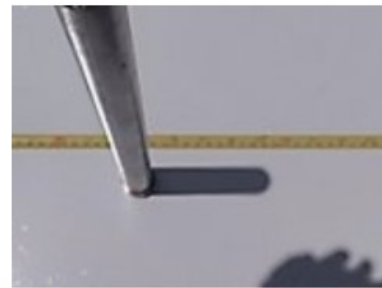
Distance	Angle
circumference	360°
820km	62° - 54.7°







# Piranguinho, Brazil

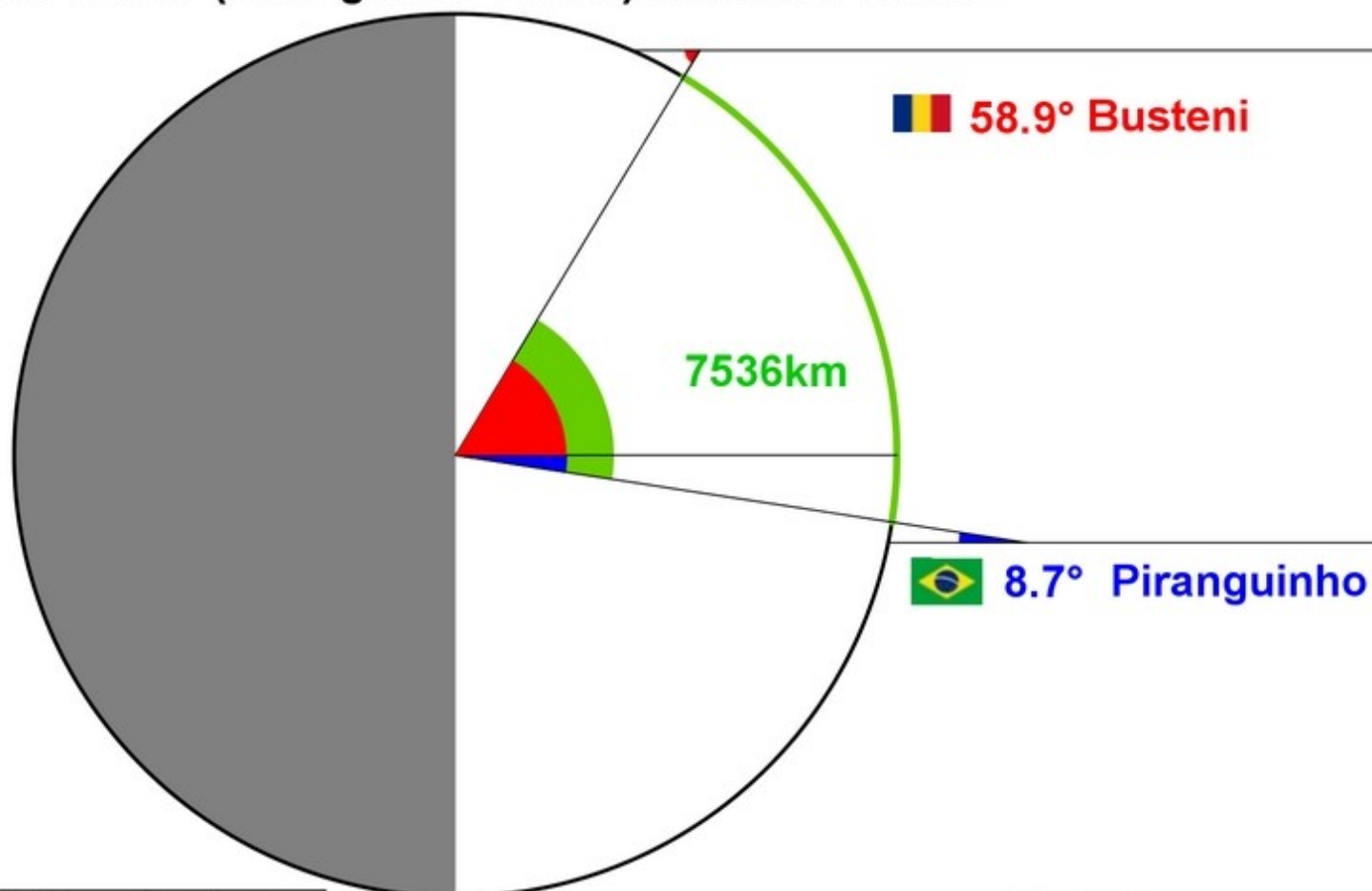


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Piranguinho	Brazil	Universidade Federal de Itajubá	-22.411	-45.535

Date	Gnomon	Shadow	Angle
13 February 2020	70cm	-10.7cm	-8.7°

13/02/2020 (Busteni-Romania) Latitude: 45.416°

13/02/2020 (Piranguinho-Brazil) Latitude: -22.411°



Distance	Angle
circumference	360°
7536km	58.9°+8.7°


$$\text{circumference} = \frac{360^\circ \times 7536\text{km}}{58.9^\circ + 8.7^\circ} = 40133 \text{ km}$$





# Rio de Janeiro CENOM, Brazil

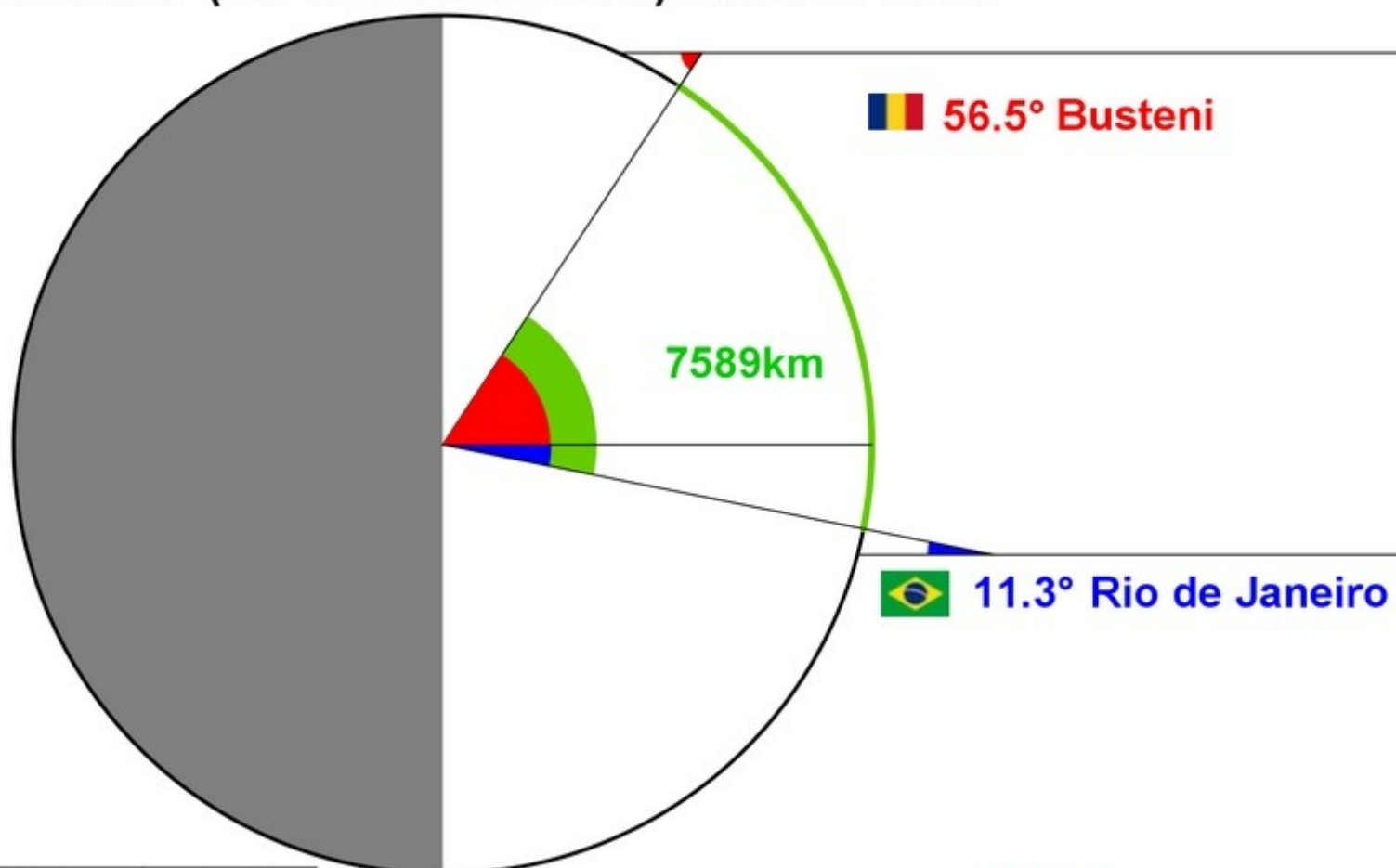


Flag	City	Country	School	Latitude (°) +N/-S	Longitude (°) +E/-W
	Rio de Janeiro	Brazil	Centro Educacional Nosso Mundo	-22.890	-43.317

Date	Gnomon	Shadow	Angle
04 February 2020	20.0cm	-1.5cm	-4.3°
07 February 2020	14cm	-1cm	-4.1°
10 February 2020	20.0cm	-1.5cm	-4.3°
12 February 2020	20.0cm	-1.5cm	-4.3°
13 February 2020	20cm	-3cm	-8.5°
14 February 2020	20cm	-3cm	-8.5°
17 February 2020	20.0cm	-3.0cm	-8.5°
18 February 2020	20.0cm	-3.0cm	-8.5°
19 February 2020	20.0cm	-4.0cm	-11.3°
20 February 2020	20.0cm	-4.0cm	-11.3°

20/02/2020 (Busteni-Romania) Latitude: 45.416°

20/02/2020 (Rio de Janeiro-Brazil) Latitude: -22.89°



Distance	Angle
circumference	360°
7589km	56.5° + 11.3°

$$\text{circumference} = \frac{360^\circ \times 7589\text{km}}{56.5^\circ + 11.3^\circ} = 40296 \text{ km}$$








# Úbeda, Spain



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

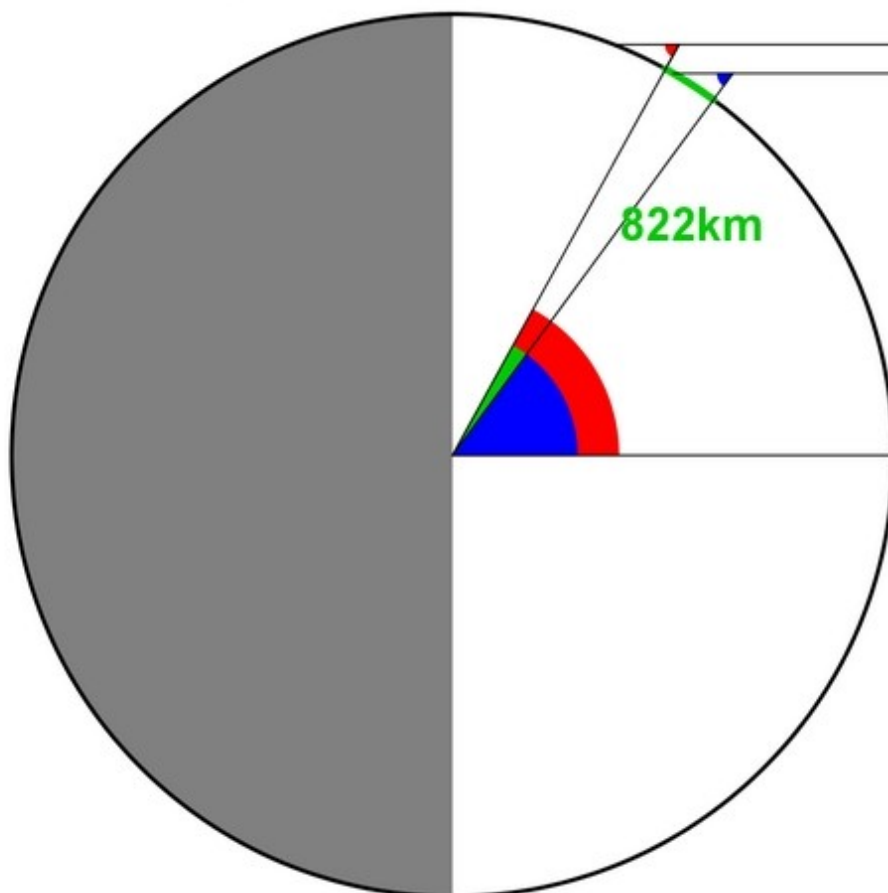
Date	Gnomon	Shadow	Angle
06 February 2020	115.9cm	157.7cm	53.7°
11 February 2020	114.9cm	147.2cm	52°
14 February 2020	115.3cm	141.8cm	50.9°
21 February 2020	115.3cm	130.3cm	48.5°

06/02/2020 (Busteni-Romania) Latitude: 45.416°

06/02/2020 (Úbeda-Spain) Latitude: 38.017°

 **61.1° Busteni**

 **53.7° Úbeda**



Distance	Angle
circumference	360°
822km	61.1° - 53.7°

$$\text{circumference} = \frac{360^\circ \times 822\text{km}}{61.1^\circ - 53.7^\circ} = 39989 \text{ km}$$







