

ASG v1 Ex 9.1 (Latitudes)

- a) The city of Syene, on the 6th parallel.
- b) On the island of Thule, the latitude is about 63°N. At noon on the summer solstice, the sun will be 23° above the celestial equator. So it will be 40° below the zenith of someone in Thule. The sun will be 50° above the southern horizon.
- c) The temperate zone lies between the 6th and the 21st latitudes. So: Alexandria, Rhodes, Rome, Borysthones, Rhiphaean Mts.
- d) In Rome, there are 15 hrs of daylight
- e) According to Waldseemüller, the distance around the earth at Rome's latitude is

$$\frac{47 \text{ mi.}}{\text{deg}} \times 360^\circ = 16,920 \text{ mi.}$$

Assuming (Google maps) Rome to be at 41.9°N lat, and the earth's radius to be 3960 mi., the circumference at Rome's latitude is $r \cos(41.9^\circ) 2\pi = 18519 \text{ mi.}$, which is a bit larger than Waldseemüller's result