

What is 55 degrees in radians?

$$55 \times (2 \pi / 360) = 0.96$$

A building is 500 m tall. When you are standing at a certain location it subtends an angle of 7 degrees. How far are you from the building?

Can use $r = s / \theta$, where θ has to be in radians

$$\Theta = 7 * (2 \text{ pi} / 360) = 0.122 \text{ radians}$$

$$r = 500 / 0.12, \text{ or } 4092.55 \text{ m}$$

A bicycle with 63 cm diameter tires travels 0.35 km.
How many revolutions do the wheels make?

Outside circumference of the wheel =
 $2 \pi r$, or $2 \pi (0.63 \text{ m} / 2)$. = 1.98 m

It takes 1.98 m, or 0.002 km, to go one
revolution or whole way around the wheel.
In 0.35 km the wheel would make 0.35
 $\text{km} / 0.002 \text{ km}$, or 175 revolutions