 **C=πd**  **r=**$\frac{C}{2π}$

  **=3.14x8cm =**$\frac{50cm}{2 ×3.14}$

  **=25.1cm =8.0cm**



 **r=**$\frac{C}{2π} $ **d=**$\frac{C}{π}$

 **=**$\frac{18cm}{2 ×3.14}$ **=**$\frac{1m}{3.14}$

 **=2.9cm =31.83cm**

**** **P=0.5C+d** **P=C+s+s**

 **=0.5(2πr)+(2r) =2πr+10cm+10cm**

 **=(πr)+(2r) =(2x3.14x5cm)+20cm**

 **=(3.14x7cm)+(2x7cm) =31.4cm+20cm**

  **=36cm =51.4cm**

 **P=0.25C+2r**  **C=πd**

  **=0.25(2πr)+2r =3.14x13 000km**

  **=(0.5πr)+2r =40 820km**

 **=(0.5x3.14x6.5cm)+(2x6.5cm)**

 **=10.2cm+13cm**

 **=23.2cm**

 **L=0.5C C=πd**

 **=0.5(πd) =3.14x70cm**

 **=0.5x3.14x2.4km =220cm x** $\frac{1km}{100000cm}$

 **=3.8km =0.0022km**

 **Rotations = Distance** $÷$ **C or Distance = Cx4500**

 **= 10km** $÷$ **0.0022km = 0.0022kmx4500**

 **= 4545 = 9.9 km**

 **⸫ 4545 revolutions are needed to go 10km. A wheel with this diameter would travel only 9.9 km with 4500 revolutions.**

 **P=0.5C C=2πr**

 **=0.5(πd) =2x3.14x15cm**

  **=0.5(3.14x15cm) =94.2cm**

 **=23.6cm Distance each second = 94.2cm** $÷$ **60s**

 **= 1.57cm/s**

  **Distance in 64s = 1.57cm/s x 64s**  **= 1m**

** C=2πr**

 **=2x3.14x10cm C=πd**

 **=62.8cm =3.14x28mm**

 **=87.96mm x** $\frac{1m}{1000mm}$

**From 3:45 to 5:30, the minute hand makes 1.75 rotations =0.08796m**

**Distance = C x 1.75 Rotations = Distance** $÷$ **C**

 **= 62.8cm x 1.75 = 2m** $÷$ **0.08796m**

 **= 110cm x** $\frac{1m}{100cm}$ **= 22.73 (not a full 23)**

 **= 1.1m**



 **C=πd** **There are 360° in a**

 **=3.14x0.7m circle. This sector has**

 **=2.2m an angle of 45°.**

 **Therefore, it is** $\frac{45°}{360°}$ **=** $\frac{1}{8}$ **of a circle.**

**The unicycle gets 1 full rotation each time both feet pedal P=** $\frac{1}{8}$**C+s+s**

**Distance = C x Rotations =** $\frac{1}{8}$**(2πr)+s+s**

 **= 2.2m x 220 =** $\frac{1}{8}$**(2x3.14x6.2cm)+6.2cm+6.2cm**

 **= 484m =** $\frac{1}{8}$**(38.9cm)+12.4cm**

 **=0.125(38.9cm)+12.4cm**

 **= 4.9cm+12.4cm**

 **= 17.3cm**