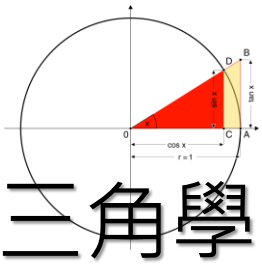
香港青年協會創新科學中心
HKFYG CENTRE FOR CREATIVE SCIENCE AND TECHNOLOGY

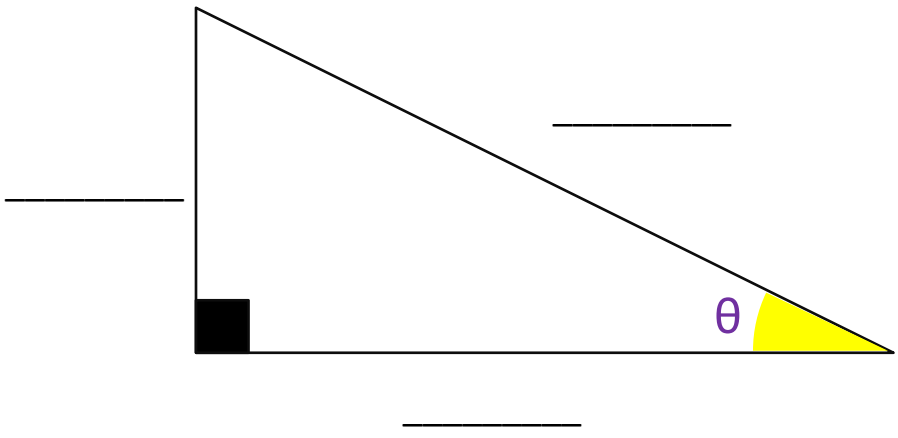


天文中的三角學工作紙

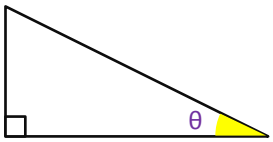
姓名：_____ 班別：_____

A. 數學概念重溫

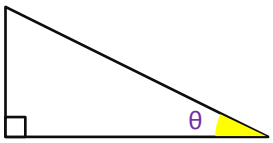
1. 間接的量度方法 - 三角學



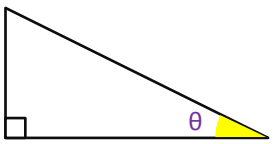
Sin θ = _____

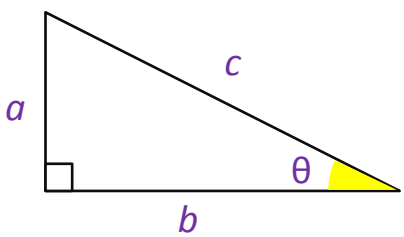


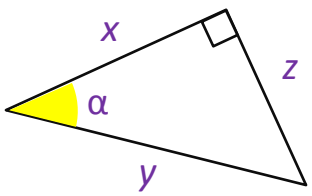
Cos θ = _____



Tan θ = _____







Sin θ = _____

Sin α = _____

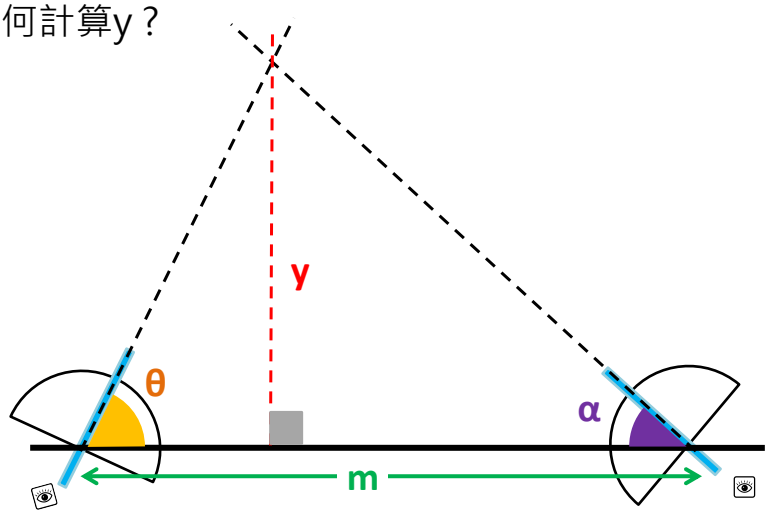
Cos θ = _____

Cos α = _____

Tan θ = _____

Tan α = _____

2. 如何計算y？



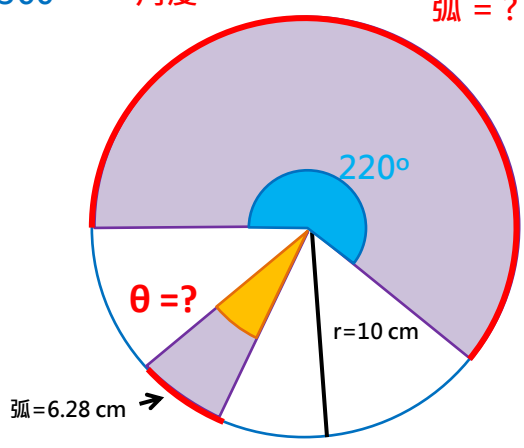
列出2個與y有關的方程式

方程式 1

方程式 2

B.1.如何利用圓周及角度的比例計算弧線的長度？

$$\frac{\text{圓周}}{360^o} = \frac{\text{弧}}{\text{角度}}$$

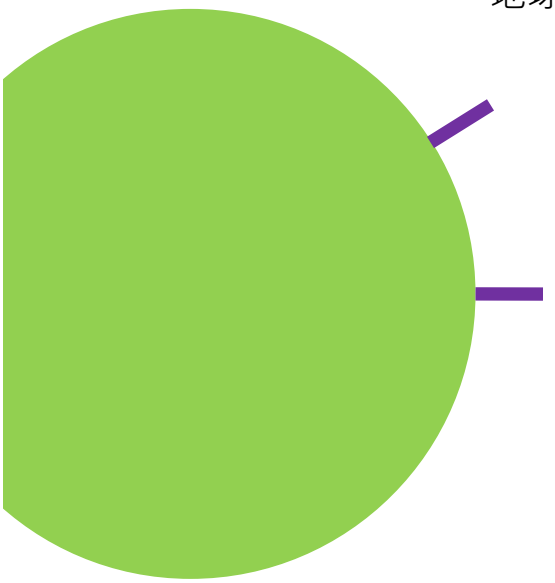


弧 = ?

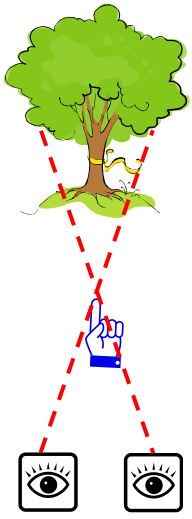
θ =?

B.2.如何計算地球大小？

地球的直徑 =　　km



C.視差法(Parallax)

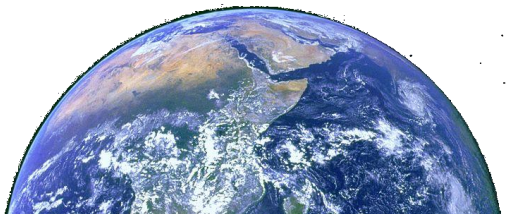


左眼　　右眼

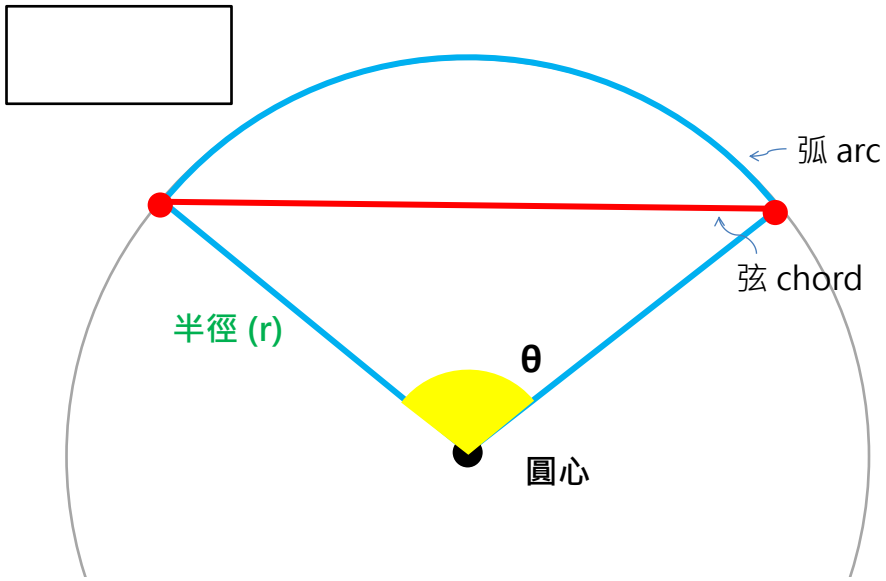
http://blog.allanbishop.com/parallax-scrolling/
http://www.scaleofuniverse.com/

D.1. 如何計算地月距離

地月距離 =

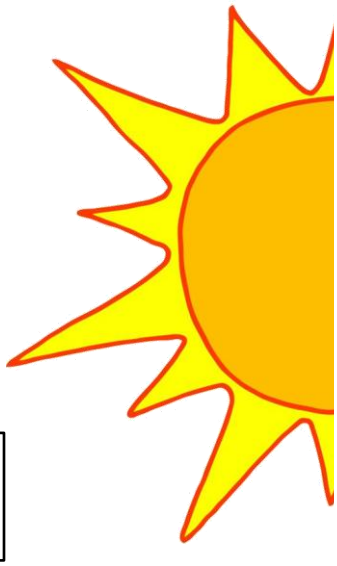


D.2. 如何計算弦 (chord)



D.3. 如何計算地日距離

地日距離 =



E. 如何計算月球的大小

月球直徑 =

相似三角形 Similar triangle

F. 如何計算與其他恆星的距離

（視差法）Parallax