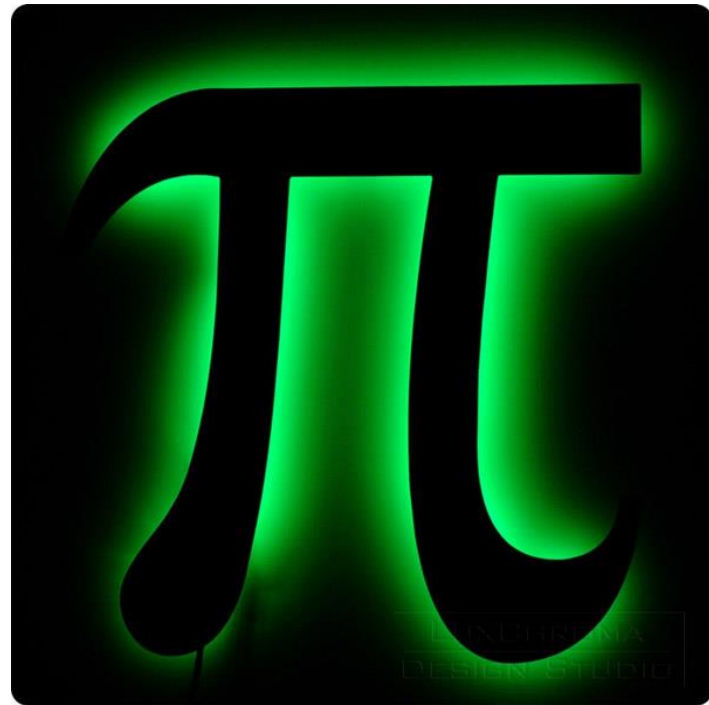
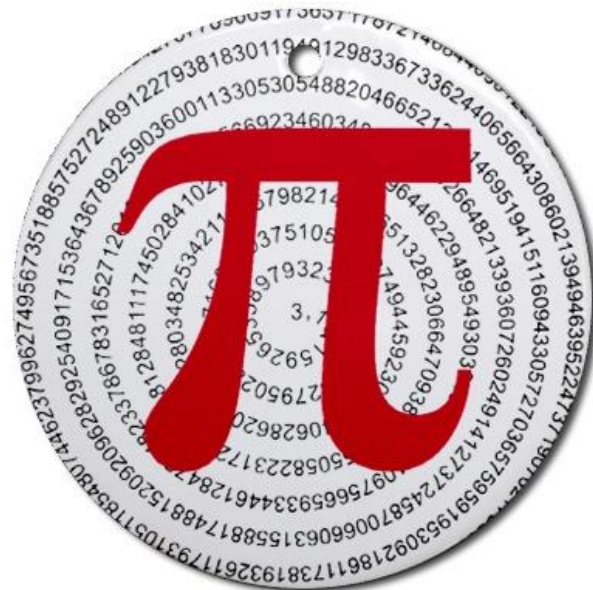


# THE LIFE OF PI !!



# 1) What is Pi?

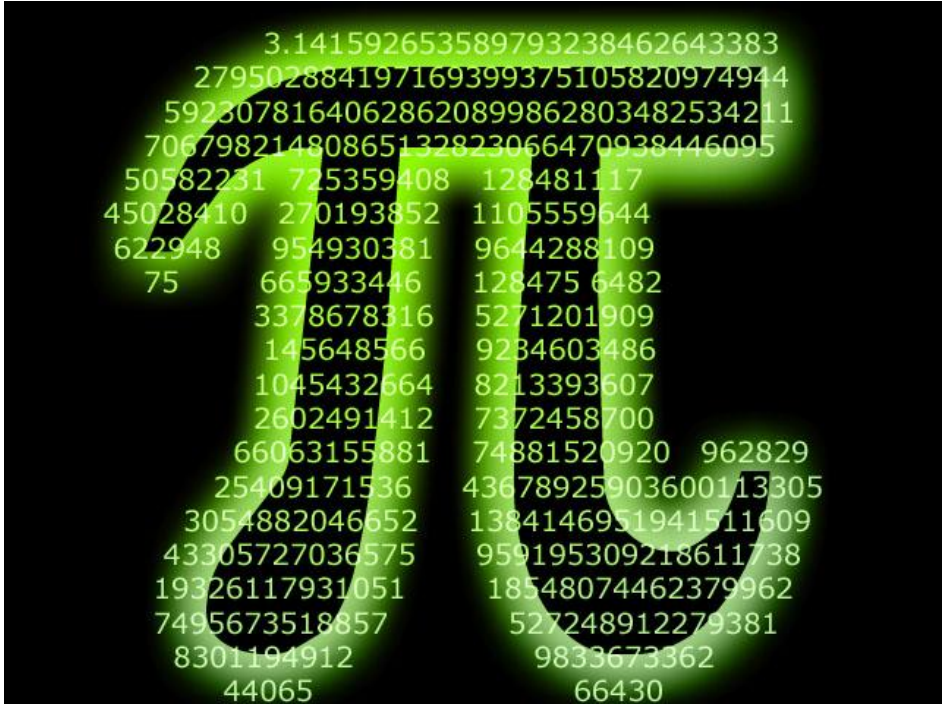
Pi ( $\pi$ ) is the ratio of a circle's circumference to its diameter. Pi is a constant number, meaning that for all circles of any size, Pi will be the same.



# 1) Symbol for Pi?

The symbol (Greek letter " $\pi$ ") was first used in 1706 by William Jones.

A 'p' was chosen for 'perimeter' of circles, and the use of  $\pi$  became popular after it was adopted by the Swiss mathematician Leonhard Euler in 1737



```
3.141592653589793238462643383
279502884197169399375105820974944
59230781640628620899862803482534211
70679821480865132823066470938446095
50582231 725359408 128481117
45028410 270193852 1105559644
622948 954930381 9644288109
75 665933446 128475 6482
3378678316 5271201909
145648566 9284603486
1045432664 8213393607
2602491412 7372458700
66063155881 74881520920 962829
25409171536 43678925903600113305
3054882046652 1384146951941511609
43305727036575 959195309218611738
19326117931051 18548074462379962
7495673518857 527248912279381
8301194912 9833673362
44065 66430
```

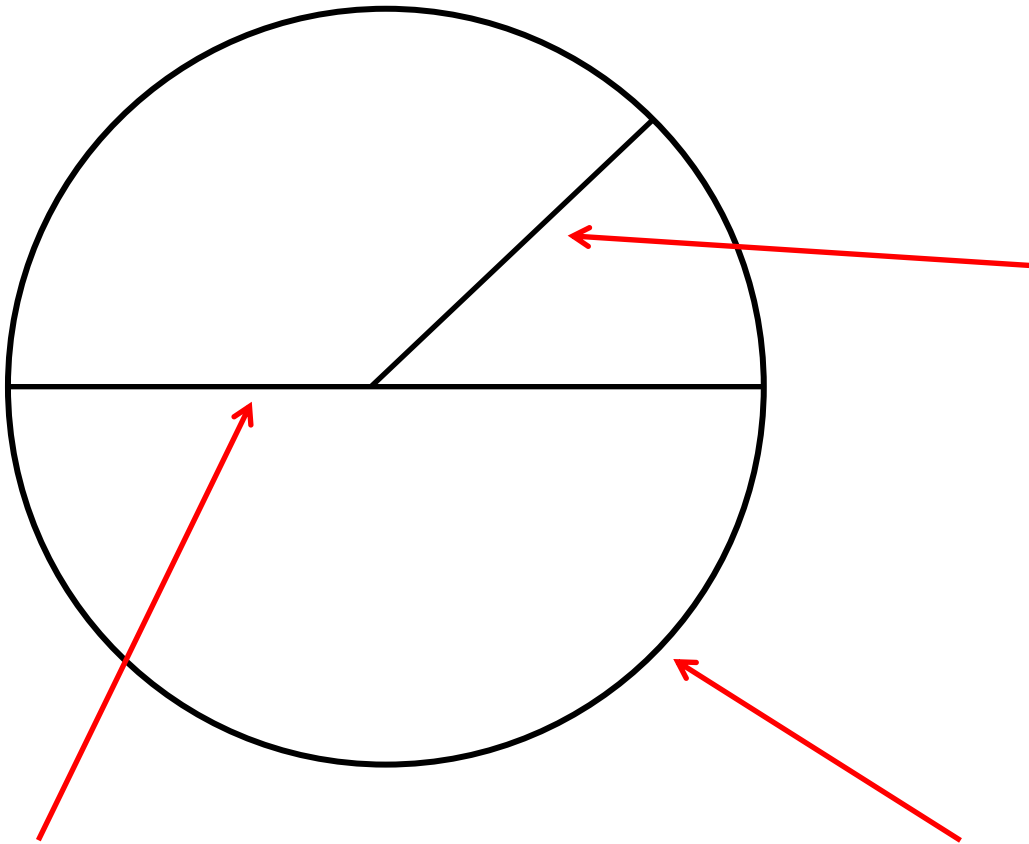
# 1) Value of Pi?

$\pi = 3.141592653589793$   
 $2384626433832795028$   
 $8419716939937510.....$

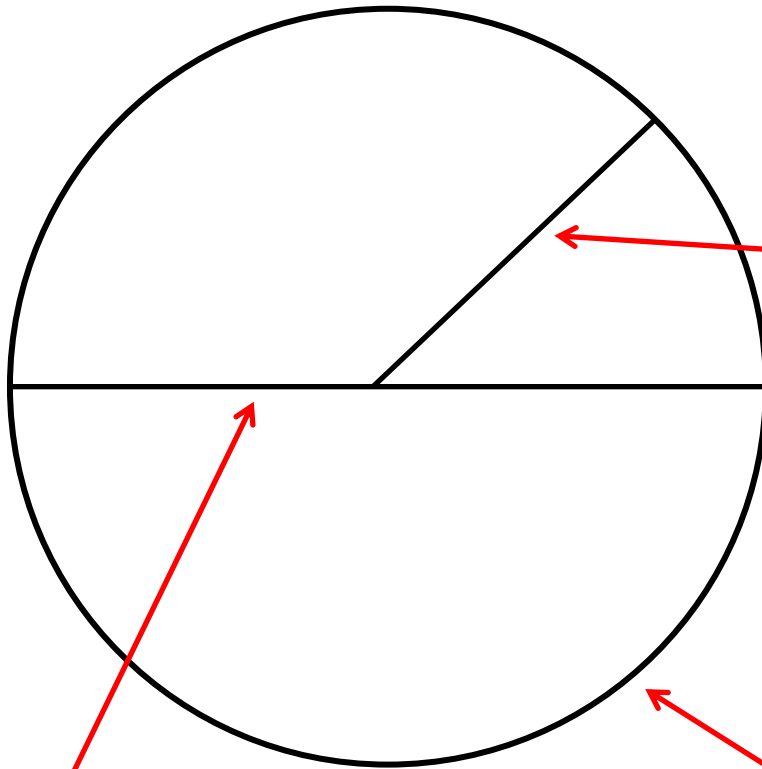
The value of Pi can be written to an infinite amount of decimal places

Sometimes we round Pi to 2 decimal places and use the value 3.14. Why?

## 2) PARTS OF A CIRCLE



## 2) PARTS OF A CIRCLE



**Diameter** - The width of a circle

**Radius** - Starts from the centre to the circumference. Think how a radiator radiates heat

**Circumference** - The distance around a circle

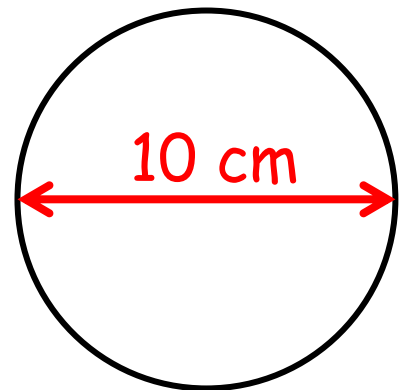
### 3) CIRCUMFERENCE/ PERIMETER OF A CIRCLE

To calculate the circumference of a circle, the distance around a circle, we simply do this;

$$\text{Circumference} = \pi \times \text{diameter}$$

$$= 3.14 \times 10\text{cm}$$

$$= 31.4 \text{ cm}$$



### 3) CIRCUMFERENCE OF A CIRCLE

Try to calculate the circumference of a basketball hoop.

Circumference =  $\pi \times \text{diameter}$

$$= 3.14 \times 46\text{cm}$$

$$\text{Circumference} = 144.44\text{cm}$$





# ONLY KNOW THE RADIUS ??

Remember that the radius is  $\frac{1}{2}$  of the diameter

OR the diameter is equal to  $2 \times \text{radius}$ , ( $2r$ ), so we can also write this formula as:

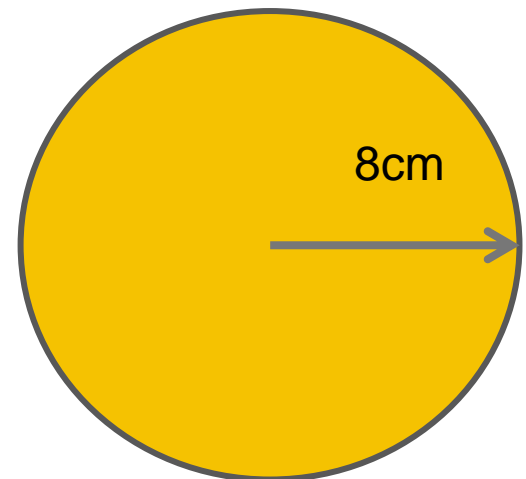
$$C = 2\pi r$$

It does not matter which you use – as long as you are clear whether it is the diameter or radius.

$$C = 2\pi r$$

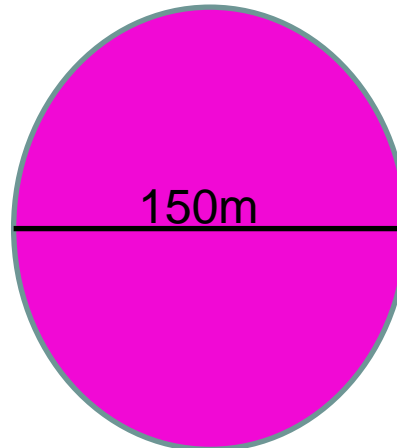
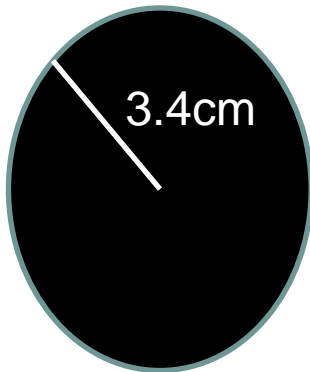
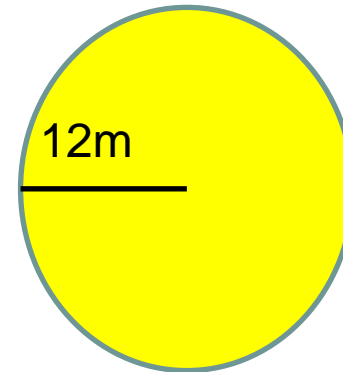
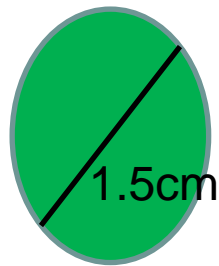
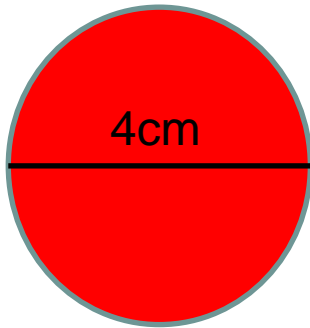
$$C = 2 \times 3.14 \times 8$$

$$C = 50.24\text{cm}$$



# Calculate the circumference of these circles

---



HOW TO REMEMBER.....

Cherry pies taste delicious!

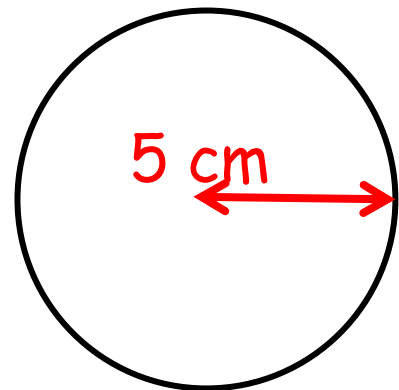
$$C = \pi \times d$$



## 4) AREA OF A CIRCLE

Area is the space inside a shape. Like a play area - the space where you play.  
We can calculate the area in a circle by doing this;

$$\begin{aligned}\text{Area} &= \pi \times \text{radius}^2 \\ &= 3.14 \times 5^2 \\ &= 78.5 \text{ cm}^2\end{aligned}$$



## 4) ONLY GOT THE DIAMETER

There is only 1 formula - so you must always find the radius first by halving the diameter.

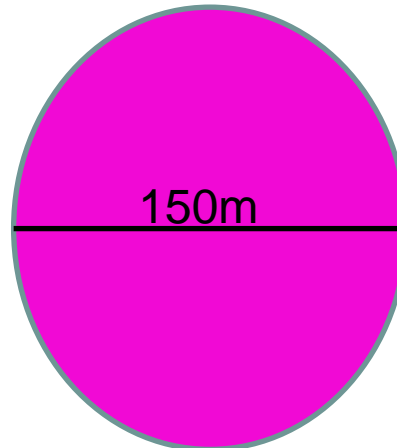
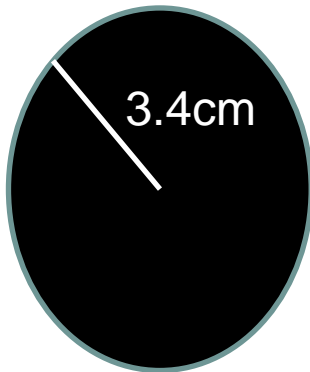
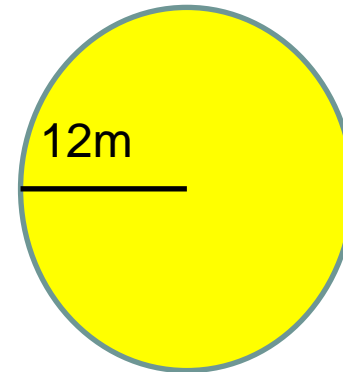
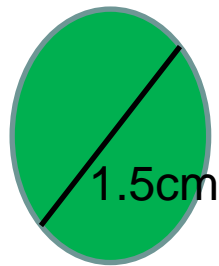
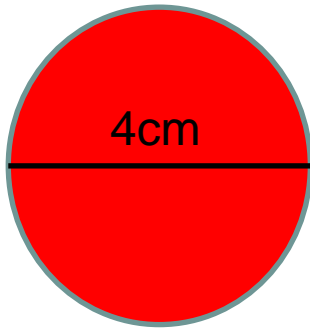
Try to calculate the area of a coin

$$\begin{aligned} &= 3.14 \times 14^2 \\ \text{Area} &= \pi \times \text{radius}^2 \\ &= 615.44 \text{ mm}^2 \end{aligned}$$



# Calculate the area of these circles

---



$$A = \pi r^2$$

HOW TO REMEMBER.....

**Apple pies are too!**

$$A = \pi r^2$$



## 5) REAL LIFE

Calculate the Area of a football pitch centre circle?





## 5) REAL LIFE



**Area**

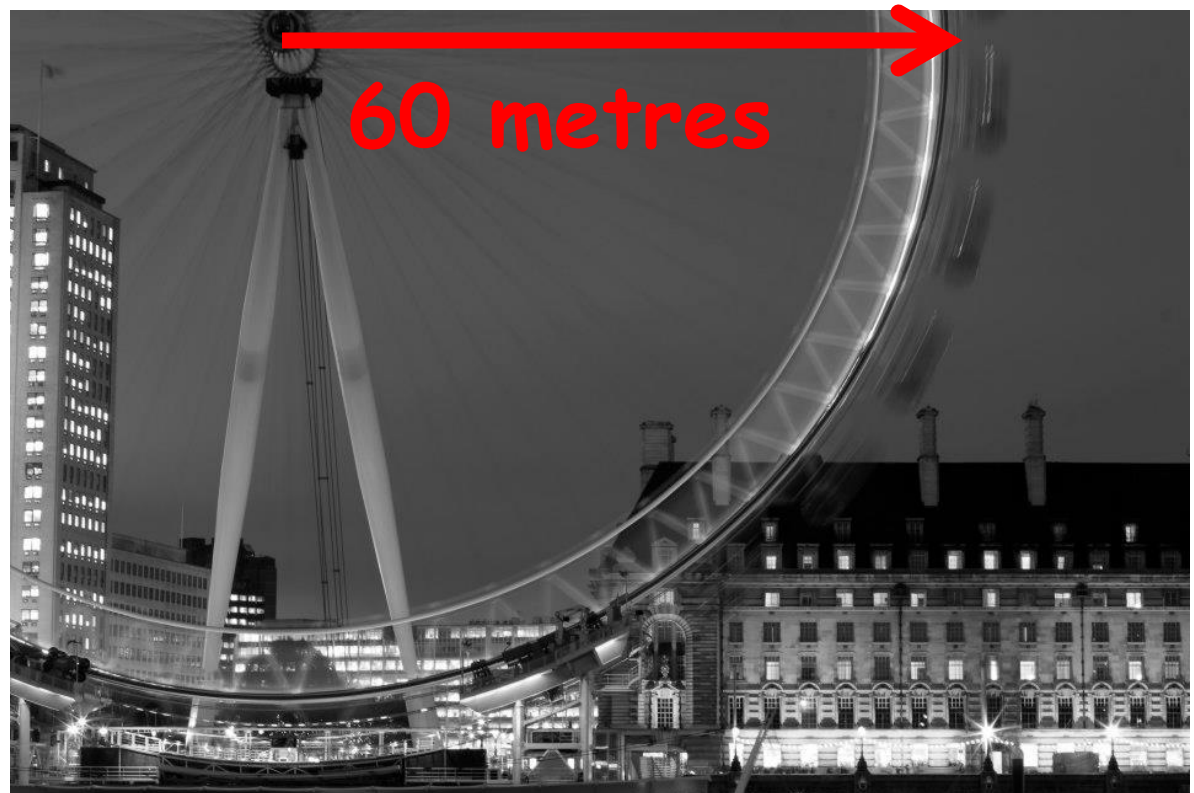
$$\text{Area} = \pi \times \text{radius}^2$$

$$= 3.14 \times 9^2$$

$$= 254.34 \text{ m}^2$$

## 5) REAL LIFE

Calculate the Area and Circumference the London Eye?



## 5) REAL LIFE



### Circumference

$$\text{Circumference} = \pi \times \text{diameter}$$

$$= 3.14 \times 120\text{m}$$

$$= 376.8. \text{ m}$$

### Area

$$\text{Area} = \pi \times \text{radius}^2$$

$$= 3.14 \times 60^2$$

$$= 11304 \text{ m}^2$$