

PowerPoint Presentation  
to assist the teacher  
with class discussions



# TI-15 Explorer™ Pieces of Pi



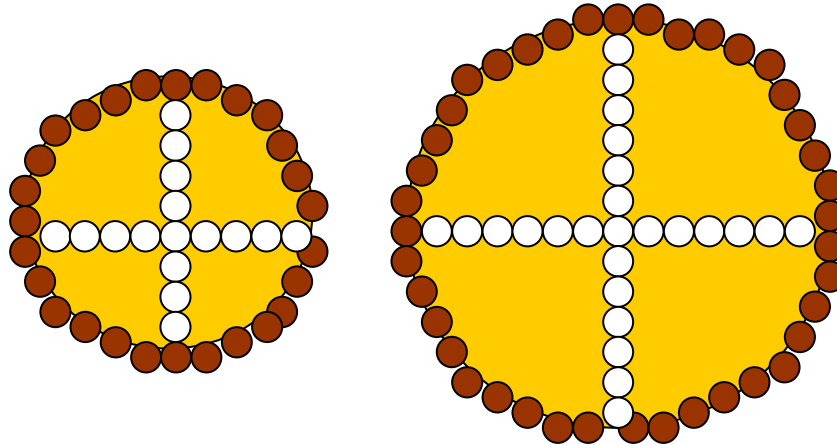
Your Passion. Our Technology. Student Success.

# Around the Circle

Brian and Antje each baked a blueberry pie.

**Pie**

Yes, I really like that!



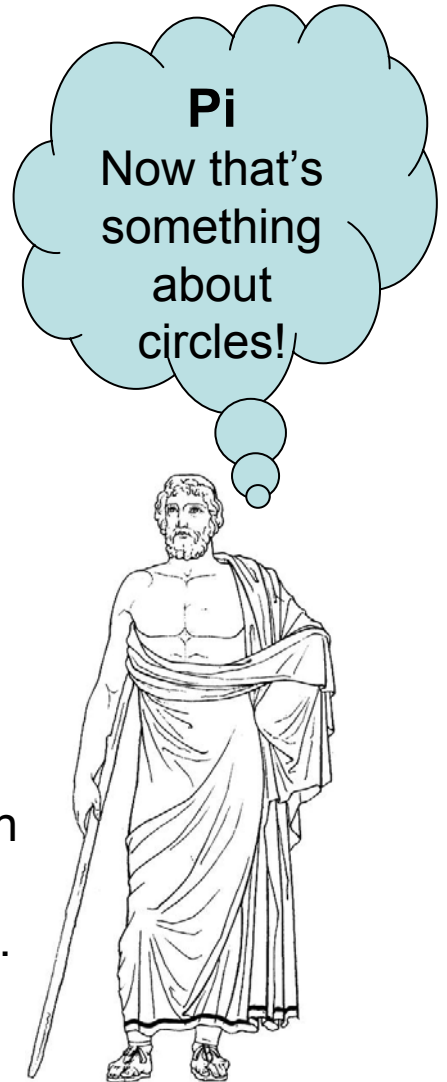
They decorated their pies with chocolate buttons around the edge and white chocolate buttons across the centre.

Strangely they then discovered that even though Antje's pie was much bigger, they each needed to use about 3 times as many brown chocolate buttons as they did white chocolate.



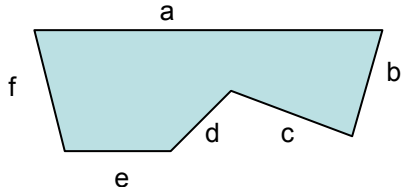
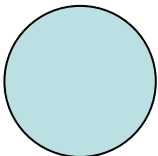
**Is there a reason for this?**

**Pi**

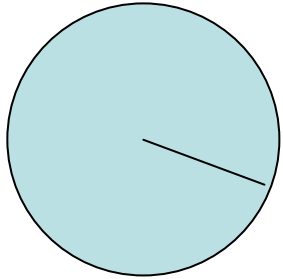
Now that's something about circles!



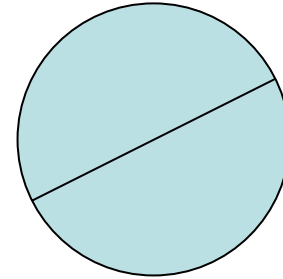
# Formulas for Perimeter

	$P = 4s$
	$P = (2 \times l) + (2 \times w)$
	$P = a + b + c + d + e + f$
	?

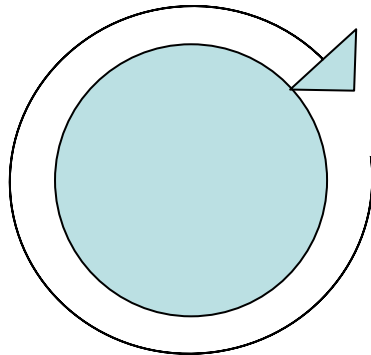
# What do we already know about circles?



The distance from the centre of the circle to any point on the circle is called the **radius**.

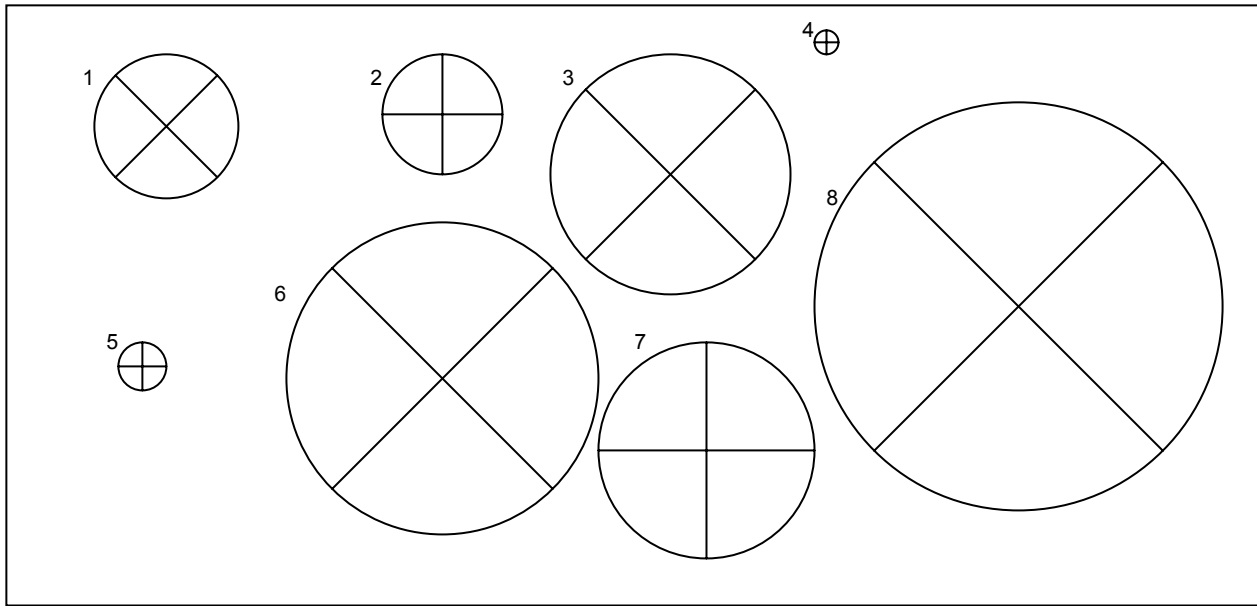


The distance completely from one side of a circle to the other passing through the centre of the circle is called the **diameter**.



The perimeter of a circle is given the special name **circumference**.

# Worksheet 1



Circle Number	Circumference C	Diameter D	$C \div D$
1			
2			
3			
4			
5			
6			
7			
8			

My very own approximation of  $\pi$   
(the mean of the scores in last column)

# Properties of $\pi$

Greek letter pi (  $\pi$  ) is used to represent the ratio of the circumference of a circle to its diameter.

## Writing pi as a decimal

$\pi$  cannot be written exactly as a decimal or as a repeating decimal.  
It represents an irrational number.

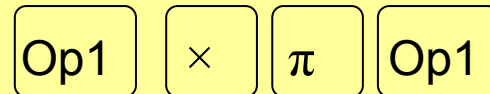
3.1415926535897932384626433832795028841971693993751058209749445923078164062  
862089986280348253421170679821480865132823066470938446095505822317253594081  
284811174502841027019385211055596446229489549303819644288109756659334461284  
756482337867831652712019091456485669234603486104543266482133936072602491412  
737245870066063155881748815209209628292540917153643689259036001133053054882  
046652138414695194151160943305727036575959195309218611738193261179310511854  
807446237996274956735188575272489122793818301194912983367336244065664308602  
139494639522473719070217986094370277053921717629317675238467481846766940513  
200056812714526356082778577134275778960917363717872146844090122495343014654  
958537105079227968925892354201995611212902196086403441815981362977477130996  
05187072113499999837297804995105973173281609631859502445945534690830264252  
230825334468503526193118811010003137838752886587533208381420617177669147303  
598253490428755468731159562863882353787593751957781857780532171226806613001  
9278766111959092164201989

# Pieces of Pi – Worksheet 2

To define an operation (formula) first press the Op1 (or Op2) key then type the steps of the operation and then press Op1 (or Op2) to set the operation.



To set the formula  $C = \pi D$   
Press



To set the formula  $C = 2\pi r$   
Press



To calculate circumference lengths for circles:

If you know the radius, type its value into your TI-15 and then press Op1

If you know the diameter, type its value into your TI-15 and then press Op2.