

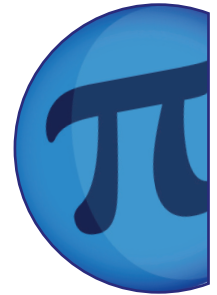


Calculating Pi: Archimedes

NAME:

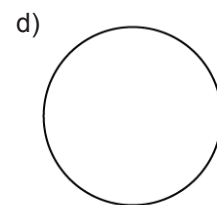
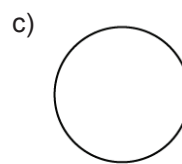
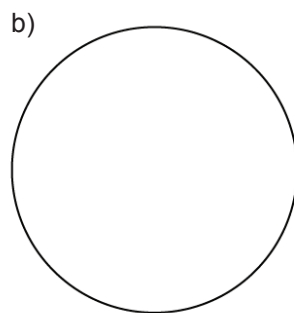
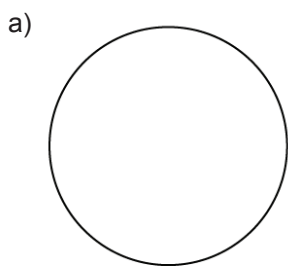
CLASS:

DATE:

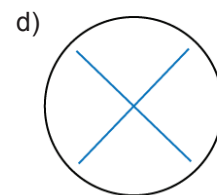
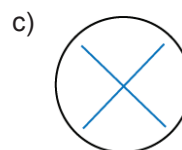
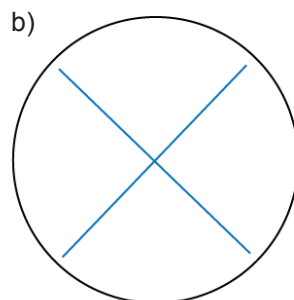
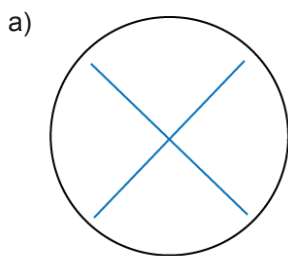


Basic

1) Measure (in millimetres) the diameter of each of these circles:



2) Measure (in millimetres) the radius of each of the following circles:





Calculating Pi: Archimedes

Basic

3) Draw circles with these radii:

a) 52mm

b) 70mm

c) 42mm

d) 65mm

4) Measure the circumference of each of the circles in question 1), 2) and 3) and fill in this table to get your experimental value of Pi.

Circle	Circumference	Diameter	Circumference \div Diameter
1a			
1b			
1c			
1d			
2a			
2b			
2c			
2d			
3a			
3b			
3c			
3d			

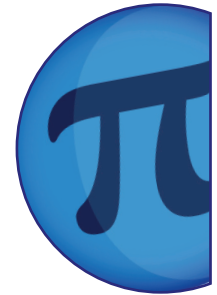


Calculating Pi: Archimedes

NAME:

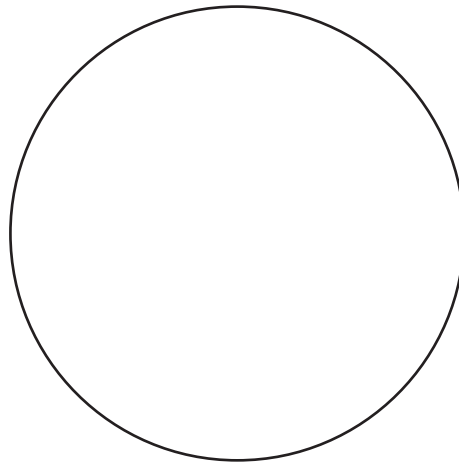
CLASS:

DATE:



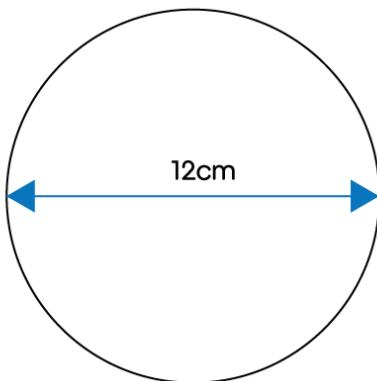
Core

1) On the circle below, mark and label the following parts: circumference, radius, diameter, chord, segment, arc, tangent and sector.

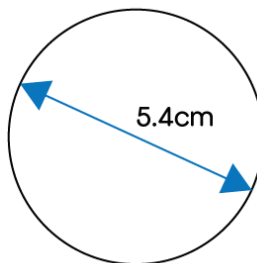


2) Calculate the circumference of the following circles by using the π button on your calculator. Round your answers to one decimal place.

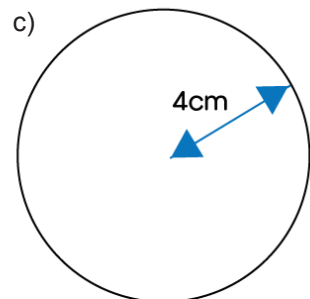
a)



b)



c)





Calculating Pi: Archimedes

Core

3) Calculate the area of the above circles by using the π button on your calculator. Round your answers to one decimal place.

4) A bicycle tyre has a 45cm radius.

a) If the wheel travels through one complete revolution, how far has the bicycle travelled?

b) If the wheel rotates 200 times, how far has the bicycle travelled?

5) The minute hand on a watch is 12mm long. What distance does the tip of this hand travel through in:

a) one hour?

b) one day?

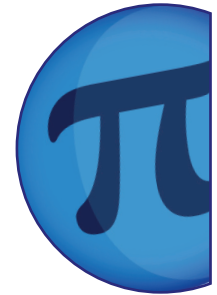


Calculating Pi: Archimedes

NAME:

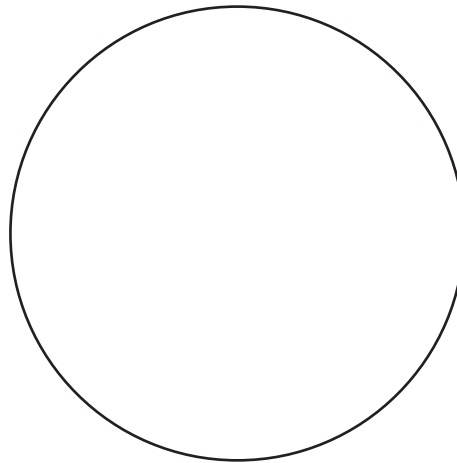
CLASS:

DATE:



Advanced

1) On the circle below, mark and label the following parts: circumference, radius, diameter, chord, segment, arc, tangent and sector.



2) Calculate the circumference of these circles:

a) diameter = 4.2cm

b) radius = 10.7cm

c) radius = 38mm

3) Calculate the area of the above circles.

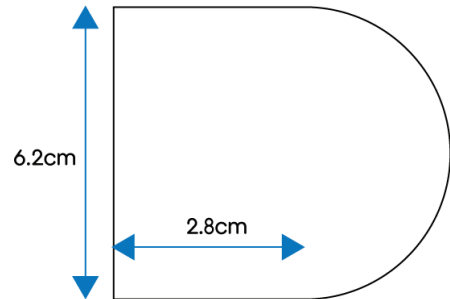
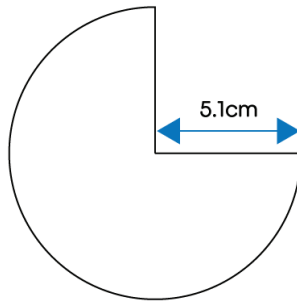
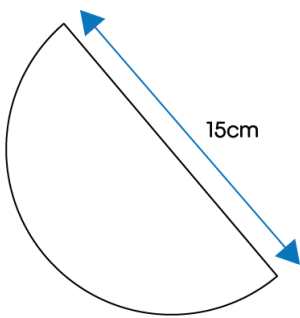


Calculating Pi: Archimedes

Advanced

4) Which has the longest perimeter: a square with side 4.2cm or a circle with diameter 5.1cm? Explain your answer.

5) Calculate the perimeters of these shapes:





Calculating Pi: Archimedes

ANSWERS

Basic

- 1) a) 29mm b) 35mm c) 16 mm d) 22mm
2) a) 14mm b) 17mm c) 8mm d) 11mm
4)

Circle	Circumference	Diameter	Circumference ÷ Diameter
1a	91.106	29mm	3.142
1b	109.956	35mm	3.142
1c	50.265	16mm	3.142
1d	69.115	22mm	3.142
2a	43.982	14mm	3.142
2b	53.407	17mm	3.142
2c	25.133	8mm	3.142
2d	34.558	11mm	3.142
3a	326.726	104mm	3.142
3b	439.823	140mm	3.142
3c	263.894	84mm	3.142
3d	408.407	130mm	3.142

Core

- 2) a) 37.7cm b) 17.0cm c) 25.1cm
3) a) 113.1cm² b) 22.9cm² c) 50.3cm²
4) a) 282.7cm b) 565.49m
5) a) 75.4mm b) 181.0cm

Advanced

- 2) a) 13.2cm b) 67.2cm c) 238.8mm
3) a) 13.9cm² b) 359.7cm² c) 536.5mm²
4) The square
5) a) 38.6cm b) 34.2cm c) 21.5cm