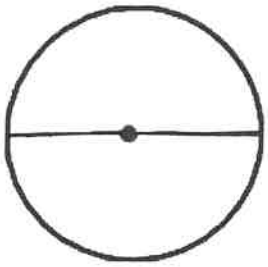
ALL ABOUT CIRCLES

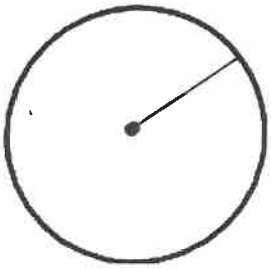
Diameter is the length of the straight line passing from side to side through the center of a circle. The diameter is always two times the radius of the circle.

$$d = 2r$$



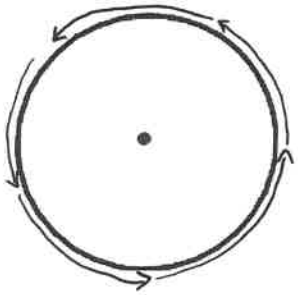
Radius is the length of a straight line from the center of the circle to the edge. The radius is always half of the diameter of the circle.

$$r = \frac{d}{2}$$



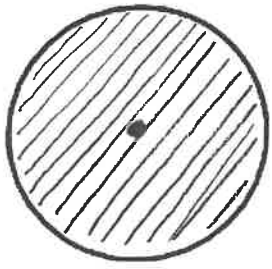
Circumference is the distance around the edge of a circle.

$$C = \pi d \quad \text{OR} \quad C = 2\pi r$$



Area is the number of square units inside a circle.

$$A = \pi r^2$$



WAIT...but what is π?

Pi is the circumference of a circle (the distance around the circle) divided by its diameter (the distance across). In other words, the circumference of any circle is approximately 3.14 times its diameter. Because pi is an irrational number, it has an infinite number of digits. No matter how many decimal places we calculate, pi will always be an approximation.

Because pi is the same for every circle, we can use it to determine the diameter if we know the circumference, or vice versa. And when we know the diameter, it's easy to calculate the area.

The First Thousand Digits of Pi

π =

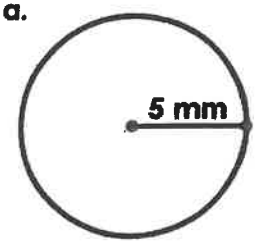
3.14159265358979323846264338327950288419716939937510582097494459230781640628620899862803482534211706798214808651328230664709384460955058223172535940812848111745028410270193852110555964462294895493038196442881097566593344612847564823378678316527120190914564856692346034861045432664821339360726024914127372458700660631558817488152092096282925409171536436789259036001133053054882046652138414695194151160943305727036575959195309218611738193261179310511854807446237996274956735188575272489122793818301194912983367336244065664308602139494639522473719070217986094370277053921717629317675238467481846766940513200056812714526356082785771342757789609173637178721468440901224953430146549585371050792279689258923542019956112129021960864034418159813629774771309960518707211349999983729780499510597317328160963185950244594553469083026425223082533446850352619311881710100031378387528865875332083814206171776691473035982534904287554687311595628638823537875937519577818577805321712268066130019278766111959092164201 98

Name: _____ Calculating the Radius and Diameter of a Circle

Radius and Diameter

What is the radius and diameter of each circle?

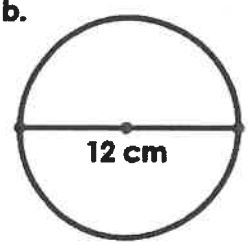
a.



radius = _____

diameter = _____

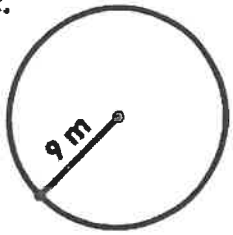
b.



radius = _____

diameter = _____

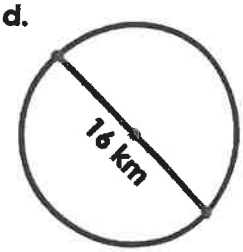
c.



radius = _____

diameter = _____

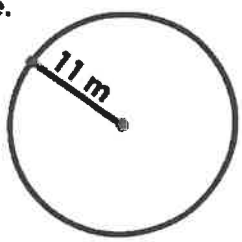
d.



radius = _____

diameter = _____

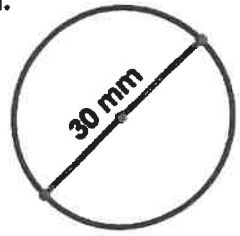
e.



radius = _____

diameter = _____

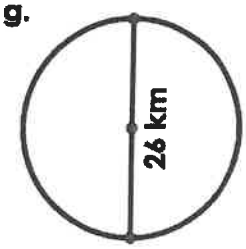
f.



radius = _____

diameter = _____

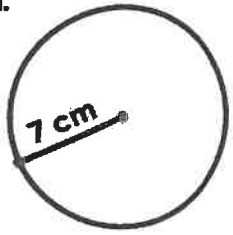
g.



radius = _____

diameter = _____

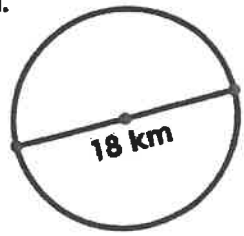
h.



radius = _____

diameter = _____

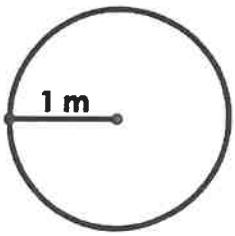
i.



radius = _____

diameter = _____

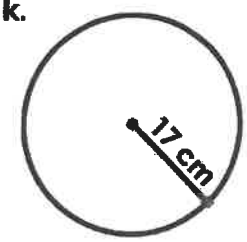
j.



radius = _____

diameter = _____

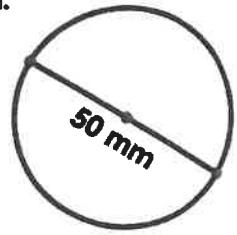
k.



radius = _____

diameter = _____

l.



radius = _____

diameter = _____

m. John has a round swimming pool. The distance from the center of the pool to the edge is 3 meters. What is the diameter of John's pool?

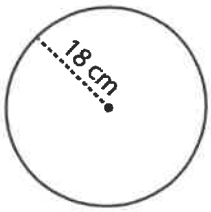
answer: _____

Circle - Circumference

Radius/Diameter Easy: S3

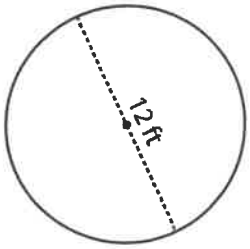
Find the exact circumference of each circle.

1)



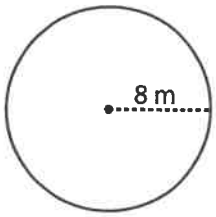
Circumference =_____

2)



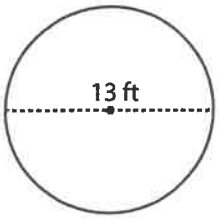
Circumference =_____

3)



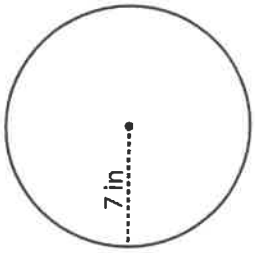
Circumference =_____

4)



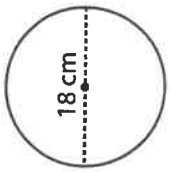
Circumference =_____

5)



Circumference =_____

6)



Circumference =_____

7) A circular clock face has a diameter of 14 in. Calculate its circumference.

Circumference =_____

8) Find the length of the plastic strip required to fix around the corner of a circular table with a radius of 10 cm.

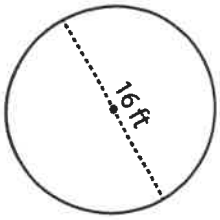
Circumference =_____

Circle - Area

Radius/Diameter Easy: S2

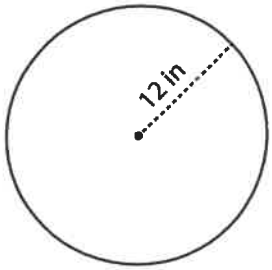
Find the exact area of each circle.

1)



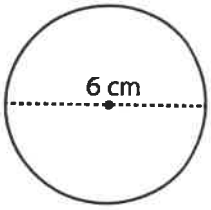
Area = _____

2)



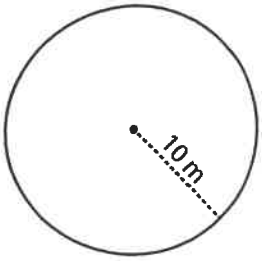
Area = _____

3)



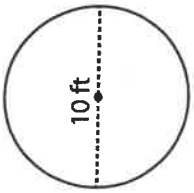
Area = _____

4)



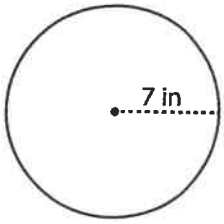
Area = _____

5)



Area = _____

6)



Area = _____

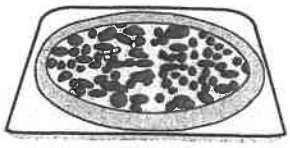
7) If the radius is 4 m, what will be the area of the circle?

a) 4π m^2 b) 8π m^2 c) 16π m^2 d) 4π m

8) What is the area of a circle with a diameter of 26 in?

a) 676π in^2 b) 52π in^2 c) 26π in d) 169π in^2

9) The diameter of the pizza is 45 cm. What is the maximum area available for toppings?



Area = _____