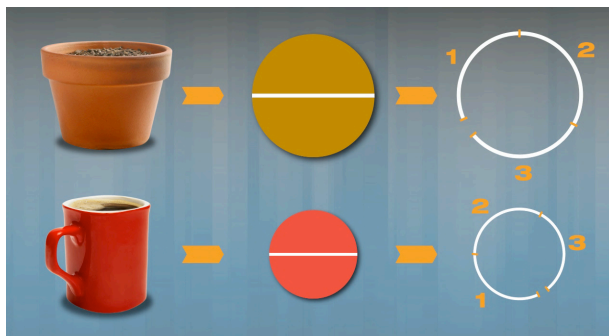


1. There is a relationship between the diameter and circumference of any circle. Study the following diagrams and describe what you notice about the circumference and diameter of each circle.

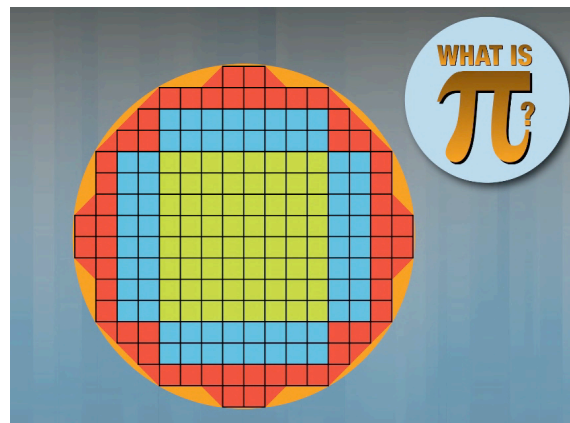
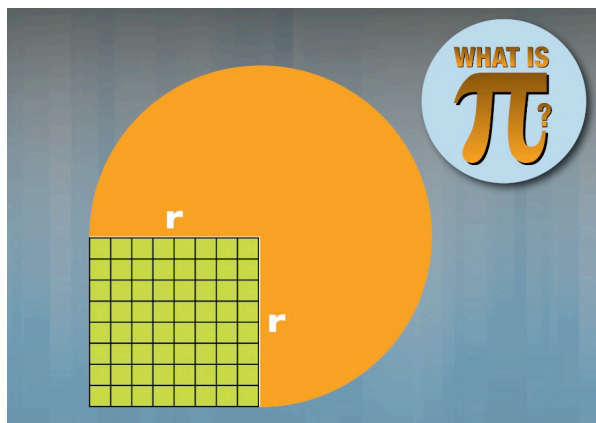


2. The following chart shows the measurements of several round objects. For each item take the circumference and divide by the diameter. Round your answers to the nearest one tenth of a unit. What do the results tell you about the circumference and diameter of any circle?

OBJECT	CIRCUMFERENCE C	DIAMETER d	$\frac{C}{d}$ RATIO OF C TO d
flower pot	12.5 in.	4.0 in.	
penny	6.0 cm	1.9 cm	
trash can lid	75.5 in.	23.5 in.	
patio table	150.5 in.	48.0 in.	
coffee mug	26.2 cm	8.6 cm	

3. Carlos has a friend who is stumped trying to find how much edging he needs for a circular garden. The diameter of the garden is 16 ft. Use what you know about circumference and diameter to estimate the circumference of the garden.
4. The formula for circumference of a circle is  $C = \pi d$ . Use this formula to find the circumference of the garden.

5. The radius square is a square whose side is the length of the radius of a circle. There is a relationship between the radius square and area of any circle. Study the diagrams below and estimate the number of radius squares it takes to cover the circle?



6. Carlos' friend also wants to find the area of his circular garden. The radius of the garden is 8 ft. Use what you learned in problem 4 to estimate the area of the garden.
7. The formula for area of a circle is  $A = \pi r^2$ . Use this formula to find the area of the garden.