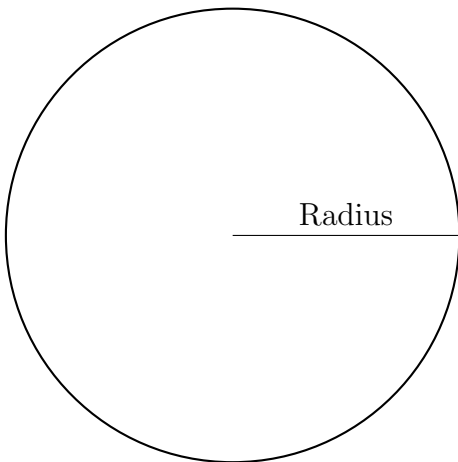


Pi Day

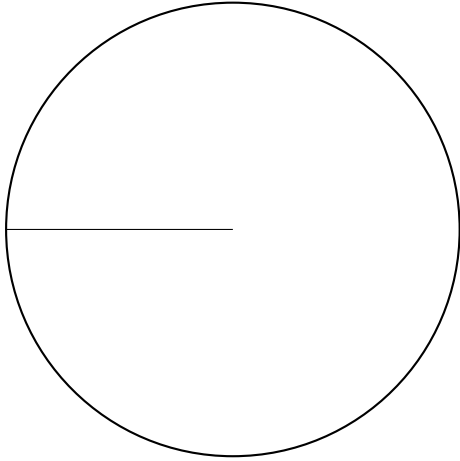
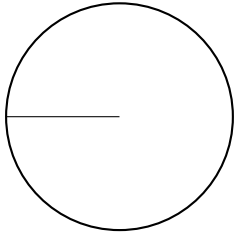
Preston Carroll

March 13, 2019

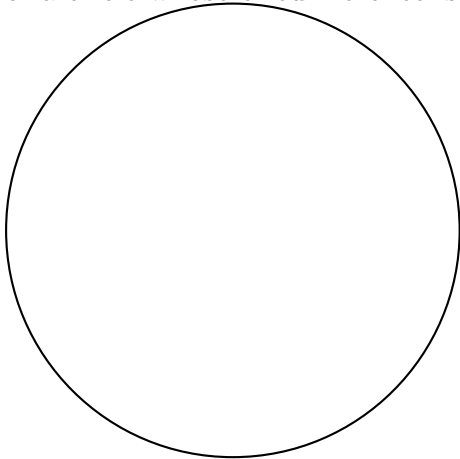
What is the circumference? The circumference is the distance around a circle. A circle's circumference is proportional to its radius. $\text{Circumference} \sim \text{Radius}$.



1. For some radius r , the circumference of a circle is 20 feet. What is the circumference of a circle when the radius is twice as big?



2. The circle below has a circumference of 100 feet. How many times bigger is the radius of a circle whose circumference is 300 feet?



Mathematicians noticed that the ratio between the circle's circumference and the diameter is constant, so that the circumference is roughly equal to three times the diameter, or six times the radius. The Greek letter π , the first letter in the Greek word for "perimeter", is used to denote this mathematical constant.

$$\pi = C/D$$

$$C = \pi \cdot D$$

$$C = 2\pi \cdot r$$

R	D	C
3		
5		
		6π
		10

1. Cavemen used $\pi=3$. Ancient Greeks used $\pi = \frac{22}{7}$ for a circle of radius $r = 7$ meters, what is the difference between the circumferences computed by the Ancient Greeks and the cavemen?

(a) What is the circumference of the circle by the cavemen?

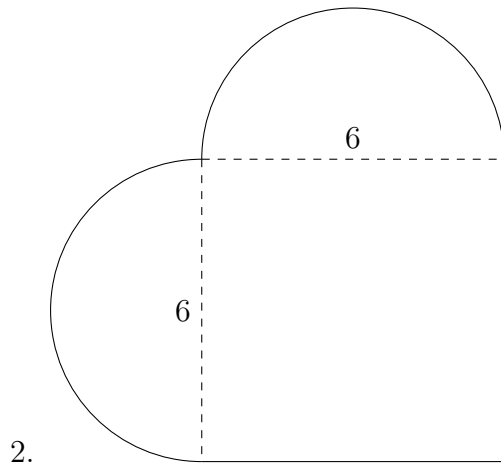
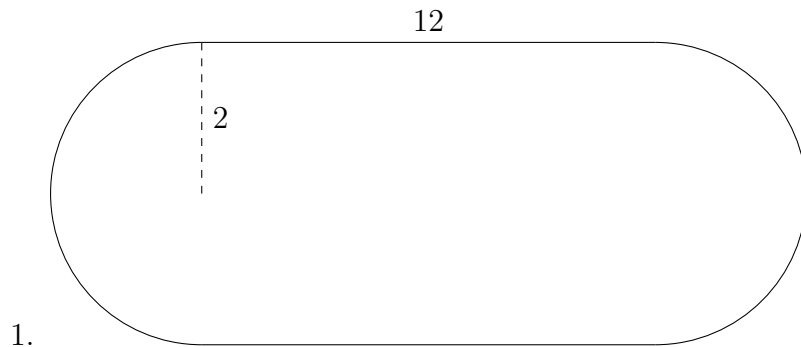
(b) What is the circumference of the circle calculated by the Ancient Greeks?

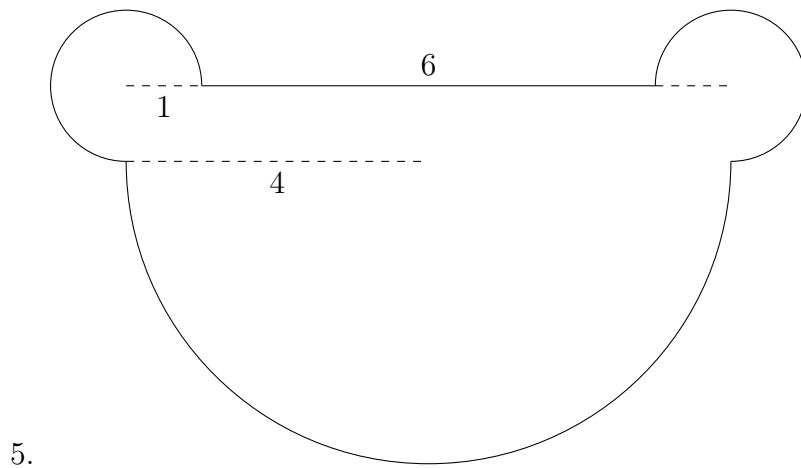
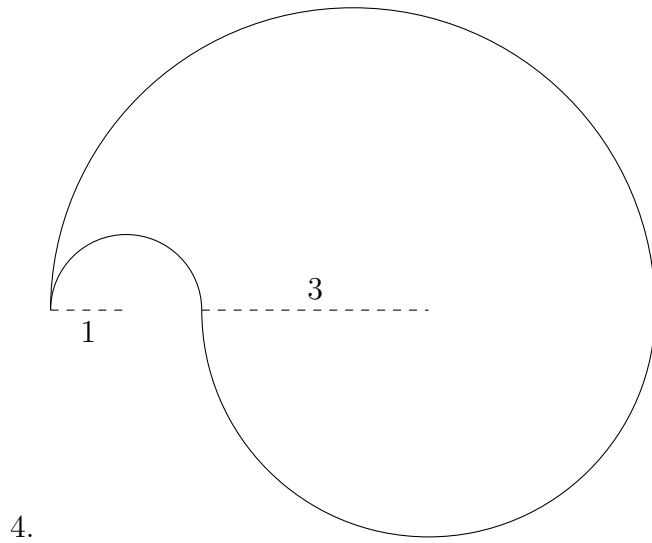
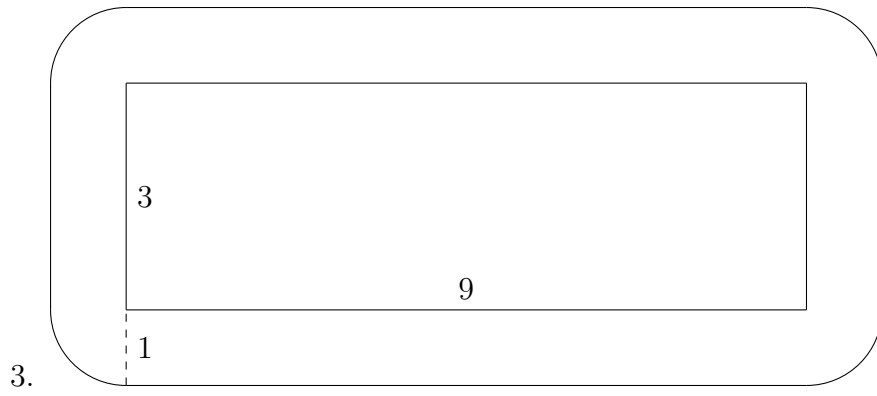
(c) What is the difference between the two calculations?

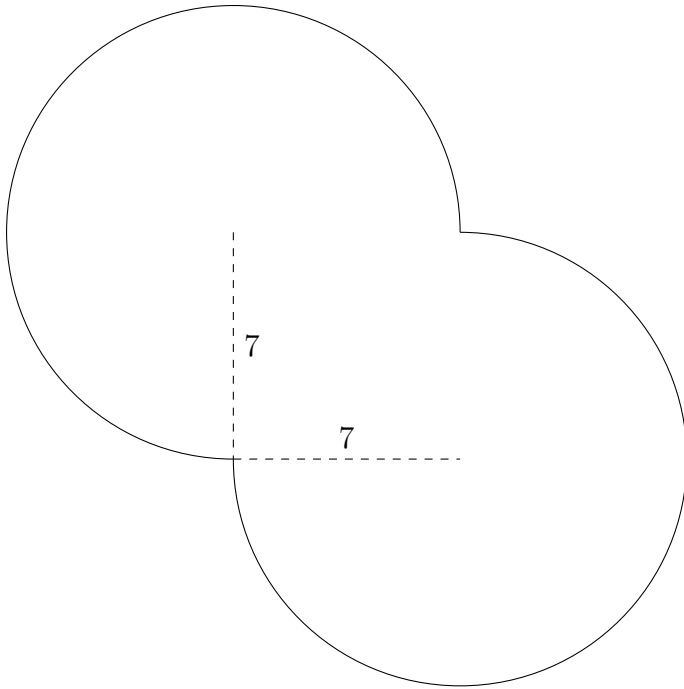
(d) Approximate the percentage difference.

2. Cavemen measured the radius of a circle and computed the circumference to be 84cm. What circumference would the Ancient Greeks have calculated?

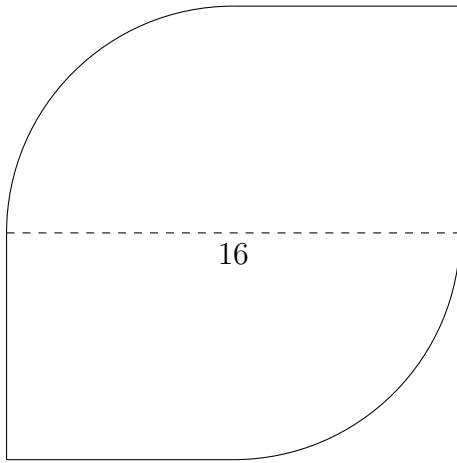
Compute the perimeters of the following shapes:







6.



7.