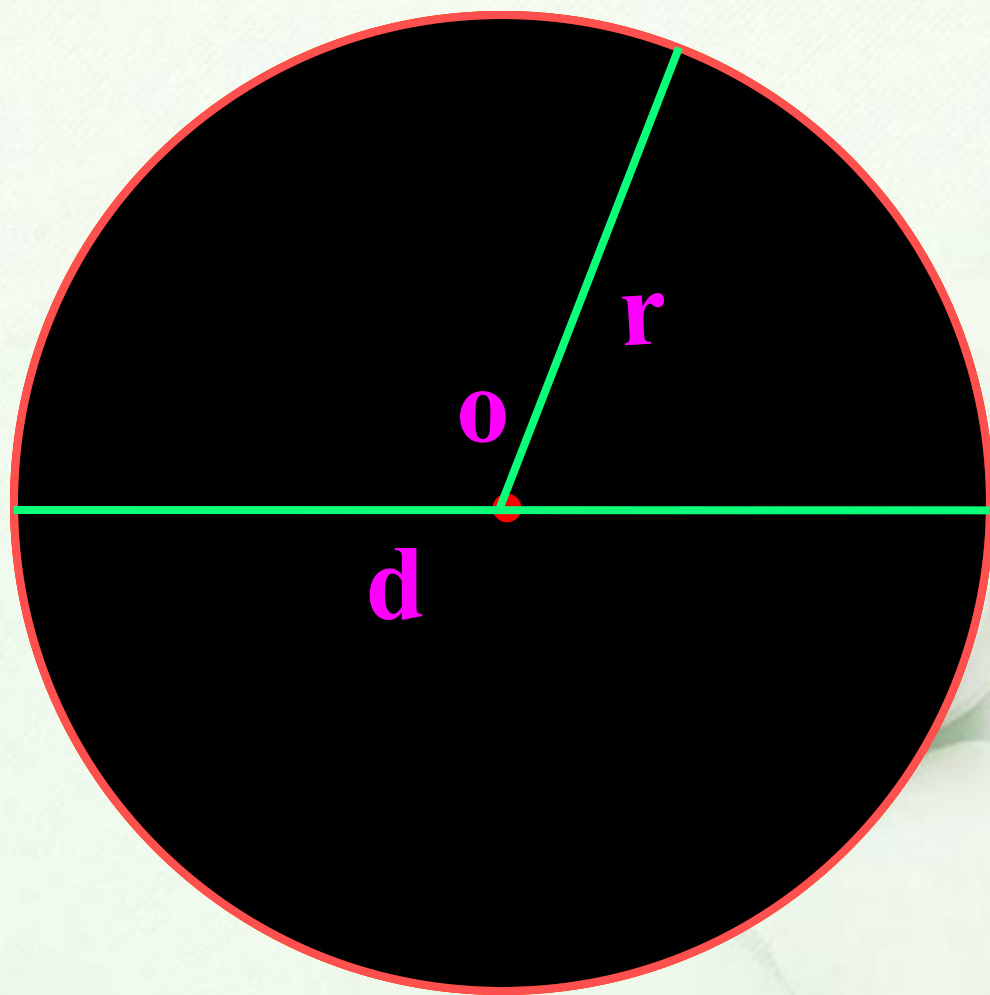


人教版六年级上册

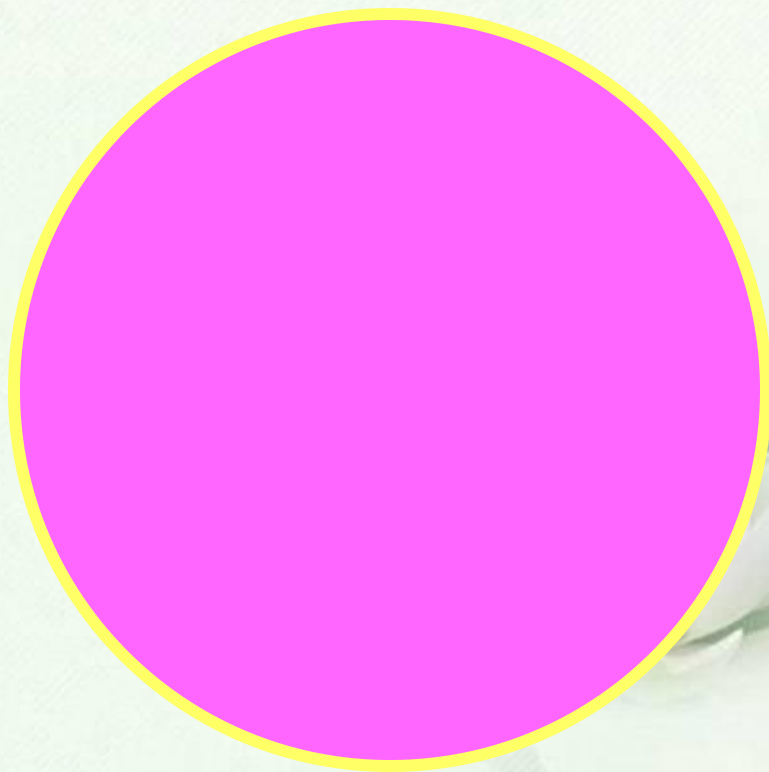
# 圆的面积



关于圆你了解了哪些？



# 圆的面积



圆所占平面的大小叫做圆的面积。





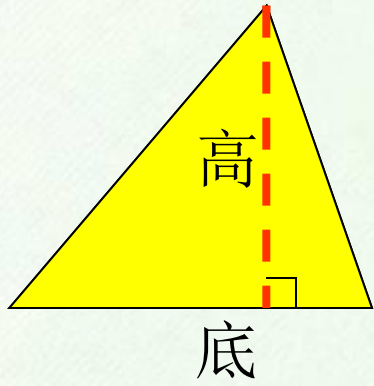
# 想一想

以前我们已经学过**平行四边形**、**三角形**、**梯形**的面积计算。大家想一想，这些平面图形的面积计算公式是如何推导出来的？

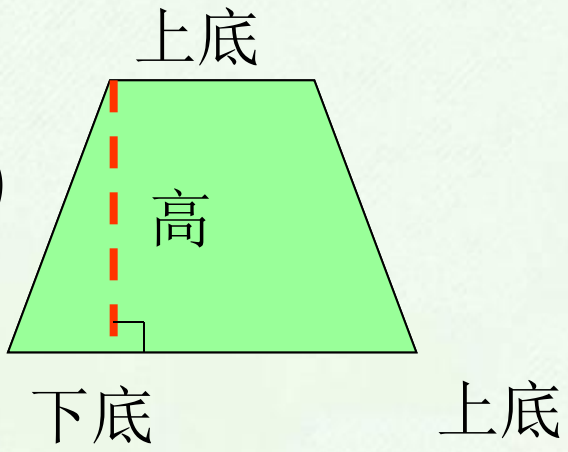




平行四边形的面积 = 底 × 高



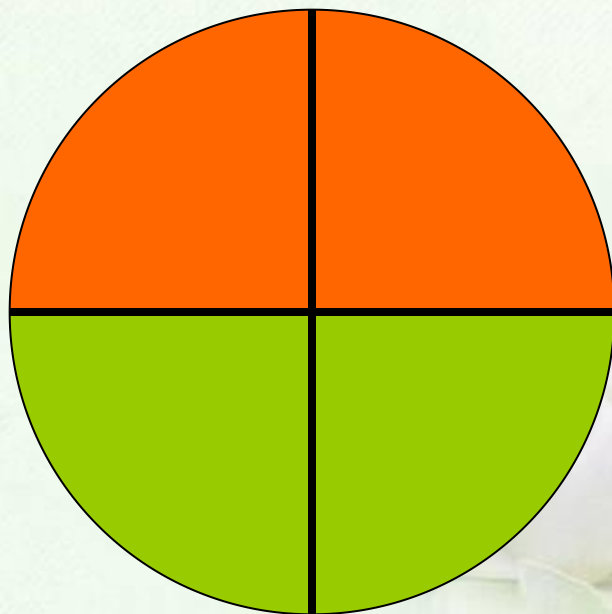
三角形的面积 = 底 × 高 ÷ 2



梯形的面积 = (上底 + 下底) × 高 ÷ 2



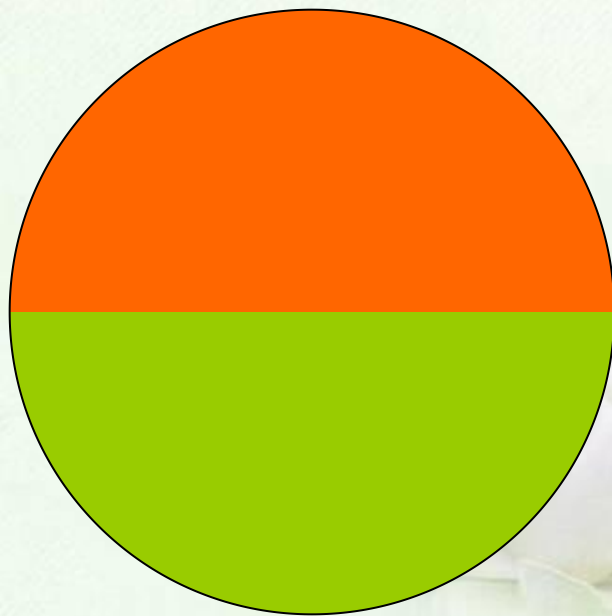
# 圆的面积



四等分圆



# 圆的面积



四等分圆

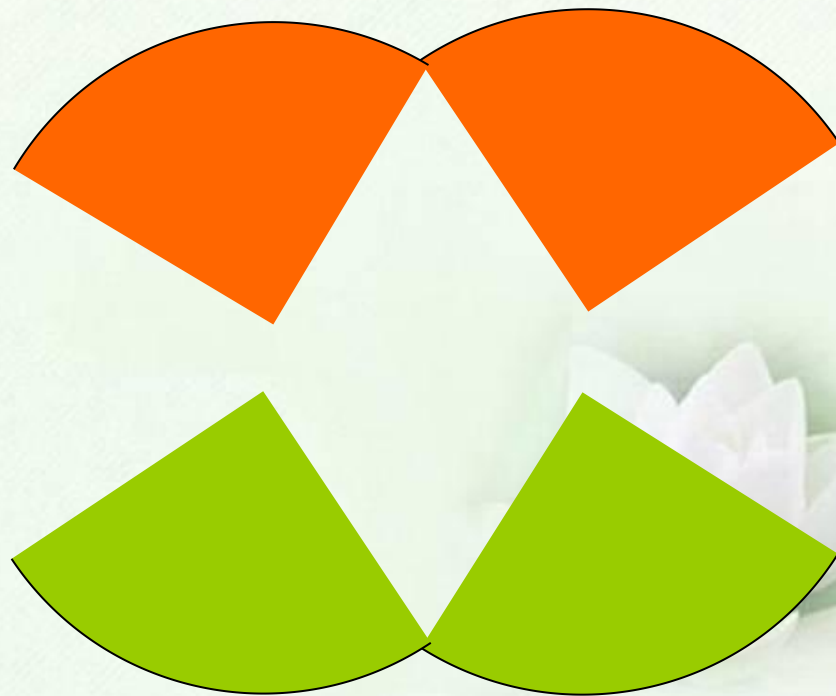
# 圆的面积



四等分圆

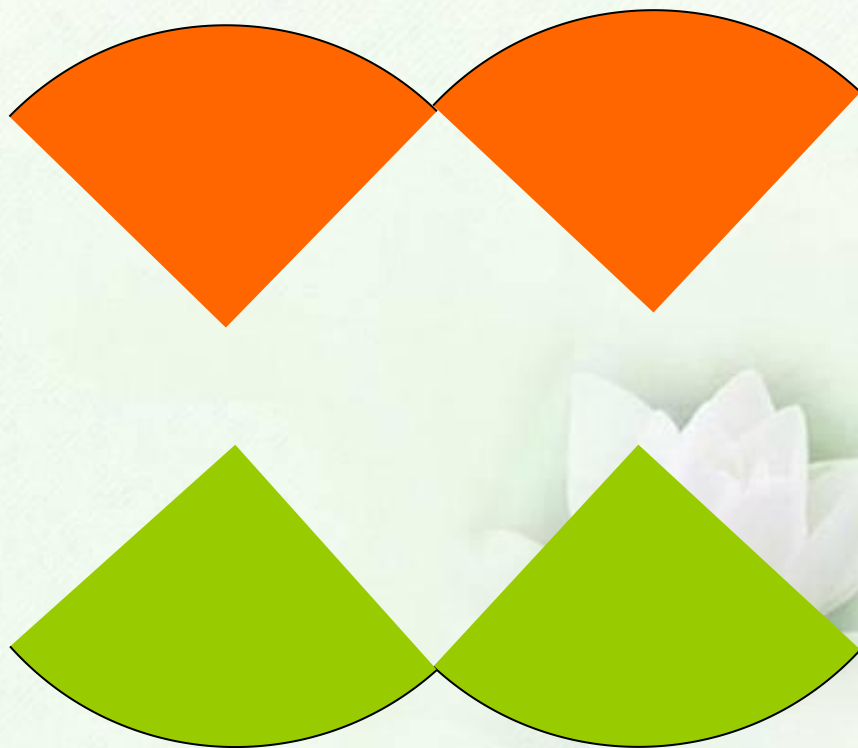


# 圆的面积



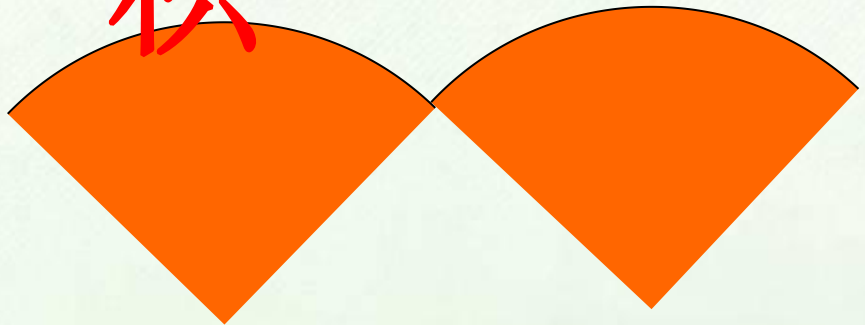
四等分圆

# 圆的面积



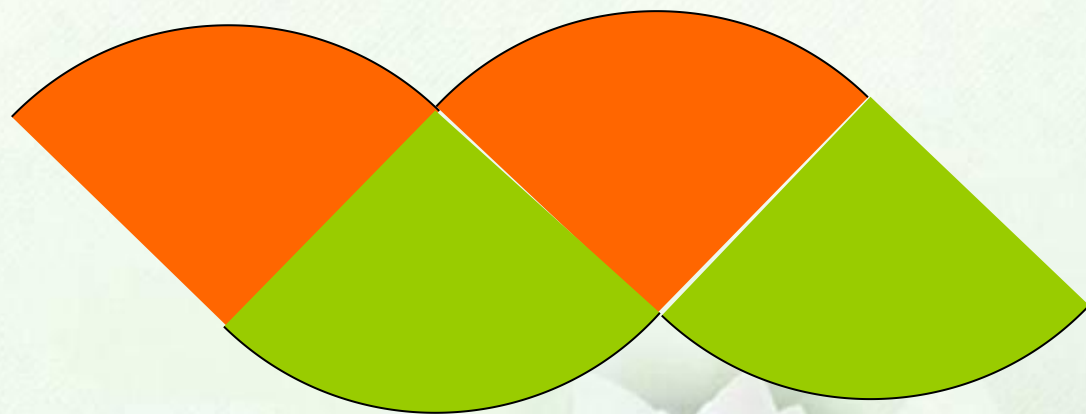
四等分圆

# 圆的面积



四等分圆

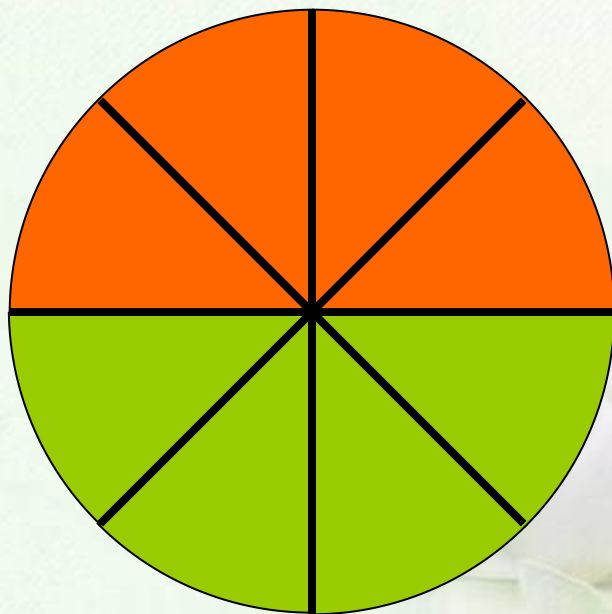
# 圆的面积



四等分圆



# 圆的面积



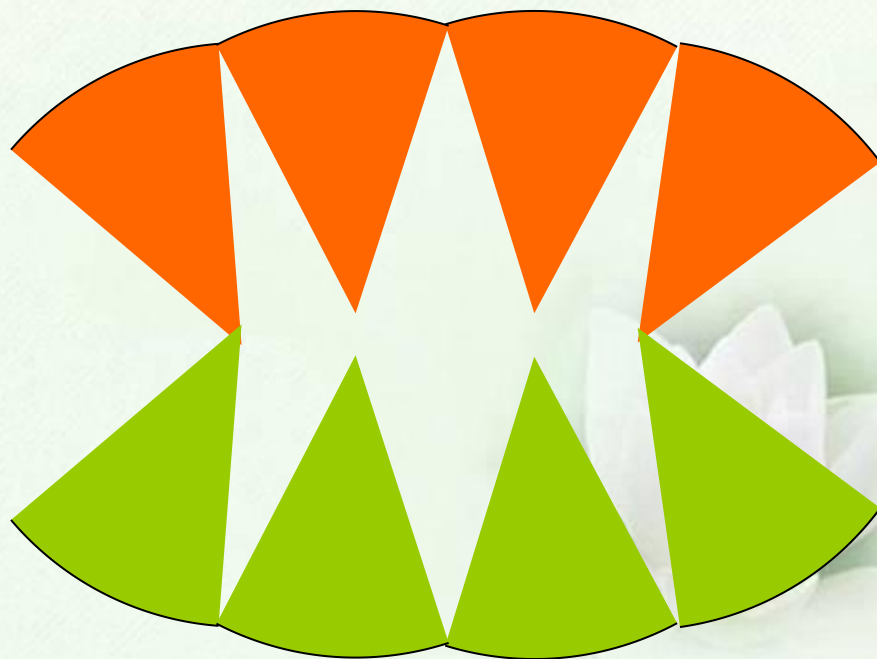
八等分圆

# 圆的面积



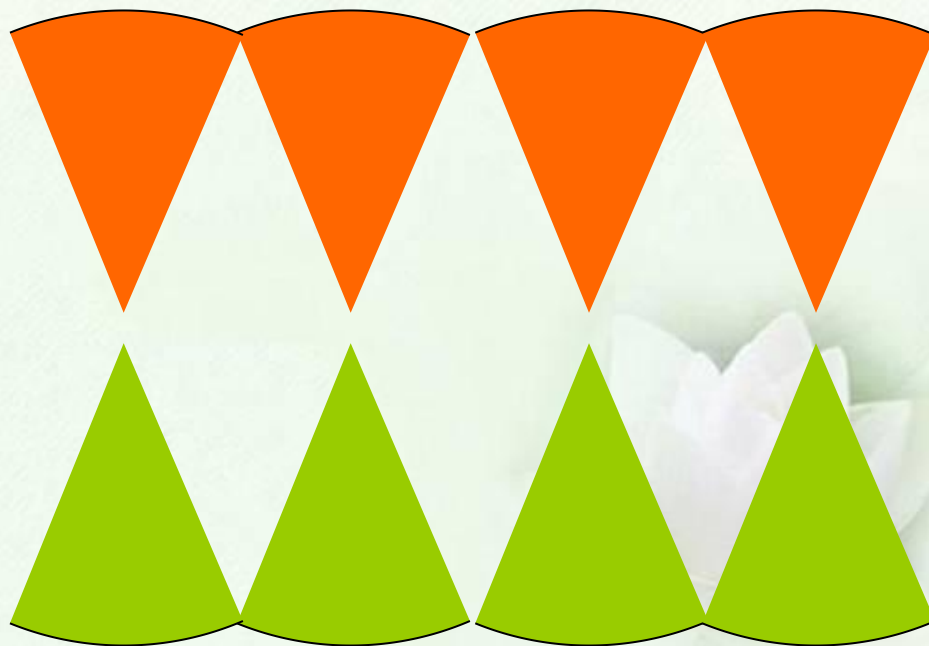
八等分圆

# 圆的面积



八等分圆

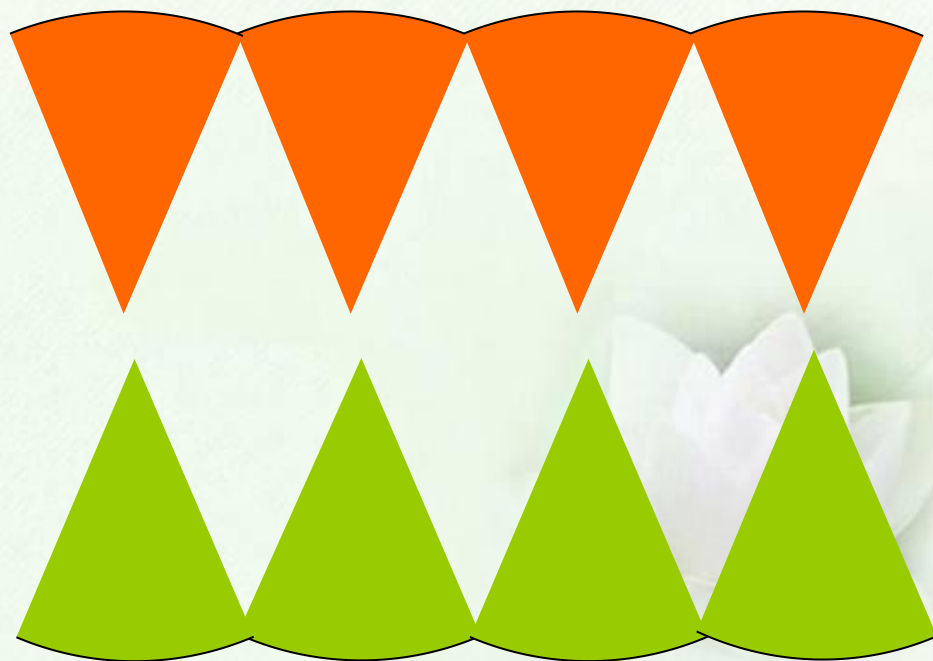
# 圆的面积



八等分圆

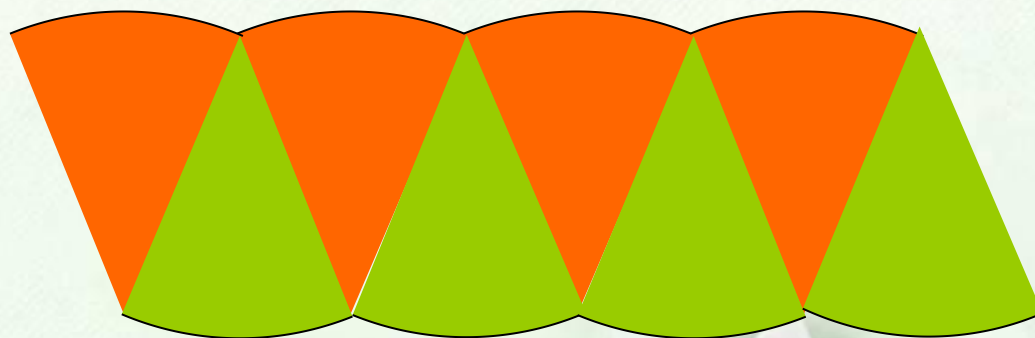


# 圆的面积



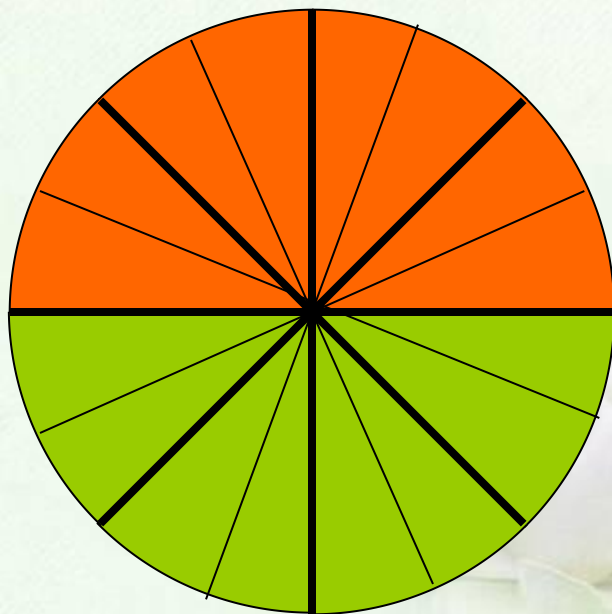
八等分圆

# 圆的面积



八等分圆

# 圆的面积



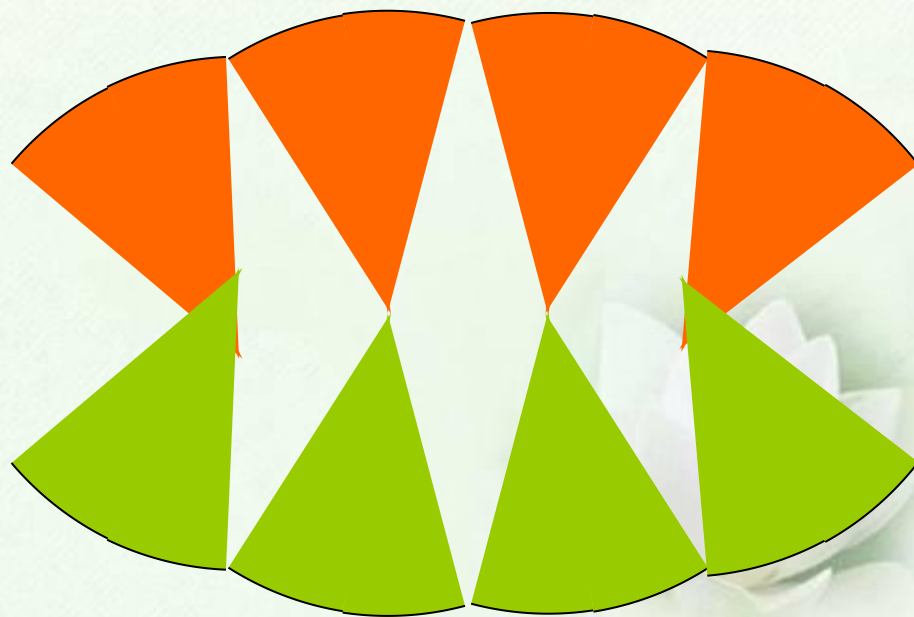
十六等分圆

# 圆的面积

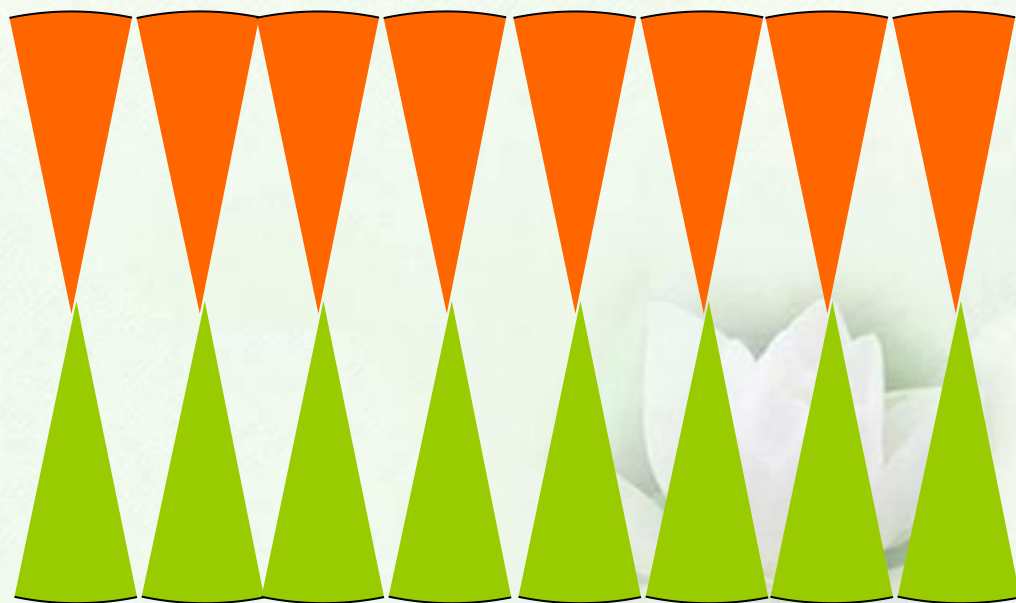




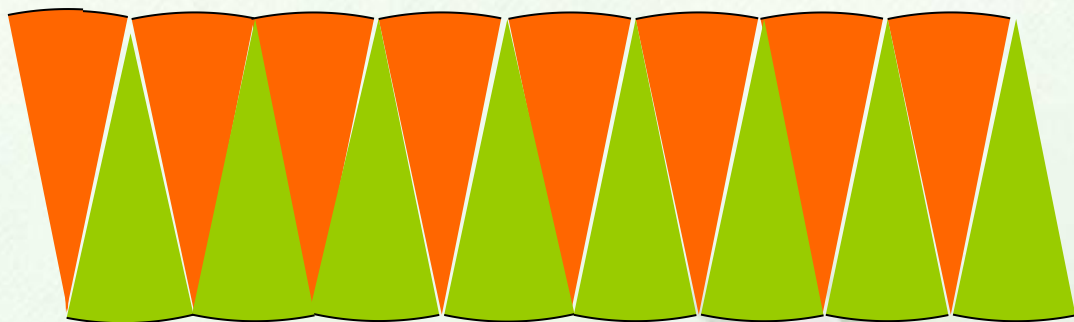
# 圆的面积



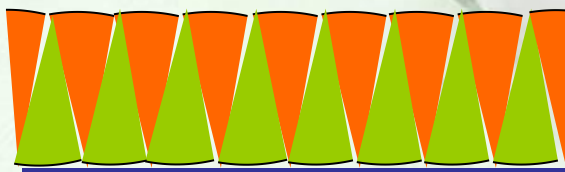
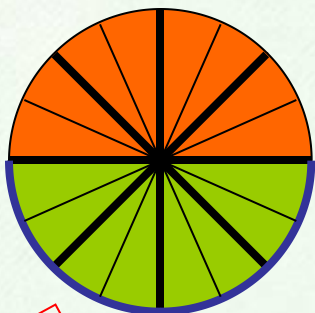
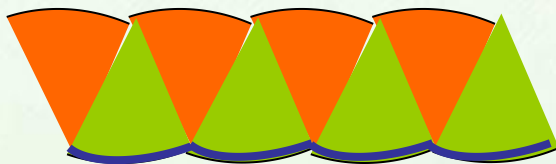
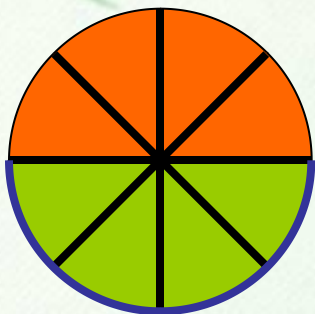
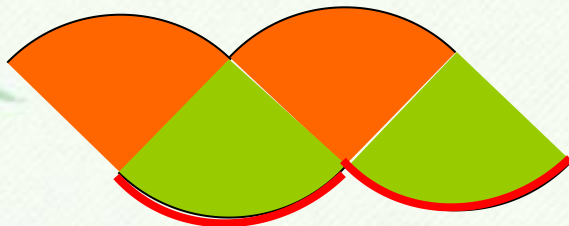
# 圆的面积



# 圆的面积



十六等分圆



曲



直

分得份数越多, 每一份就会越小, 拼成的图形就越接近于一个长方形。

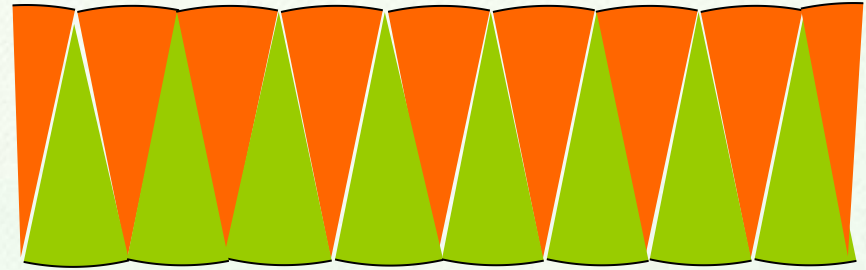
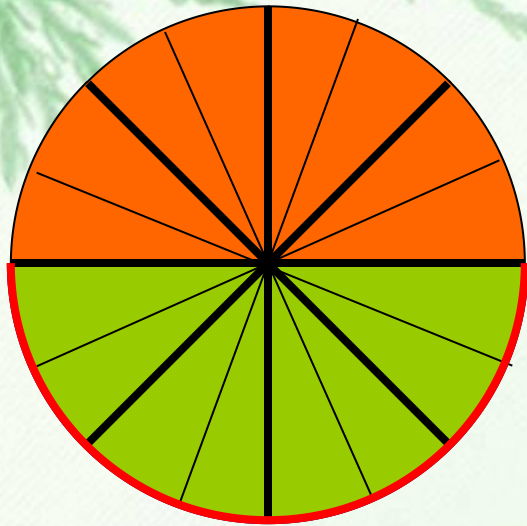
想一想

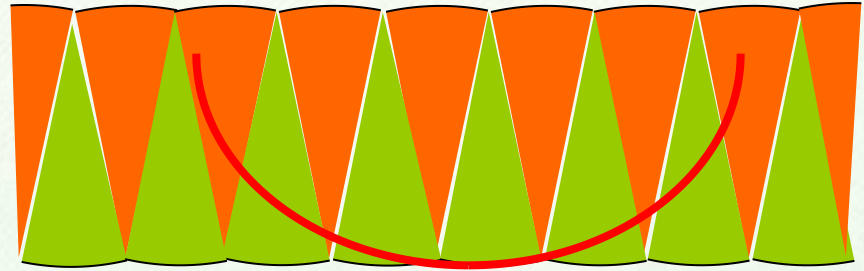
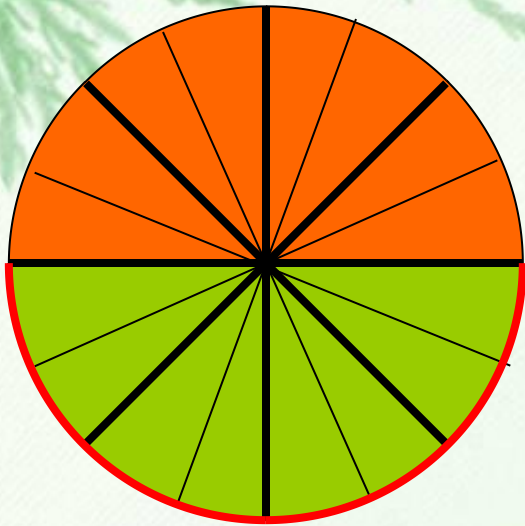
(1) 长方形的长与圆的周长有什么关系?

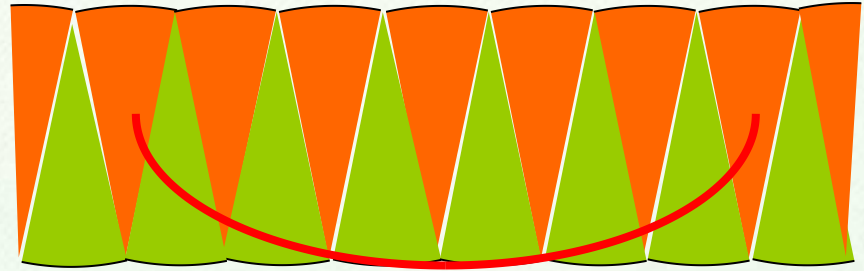
(2) 长方形的宽与圆的半径有什么关系?

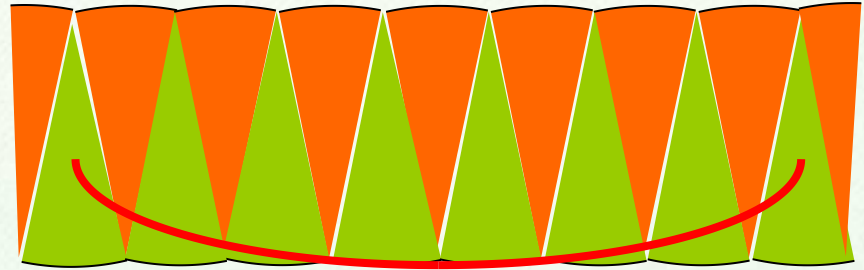




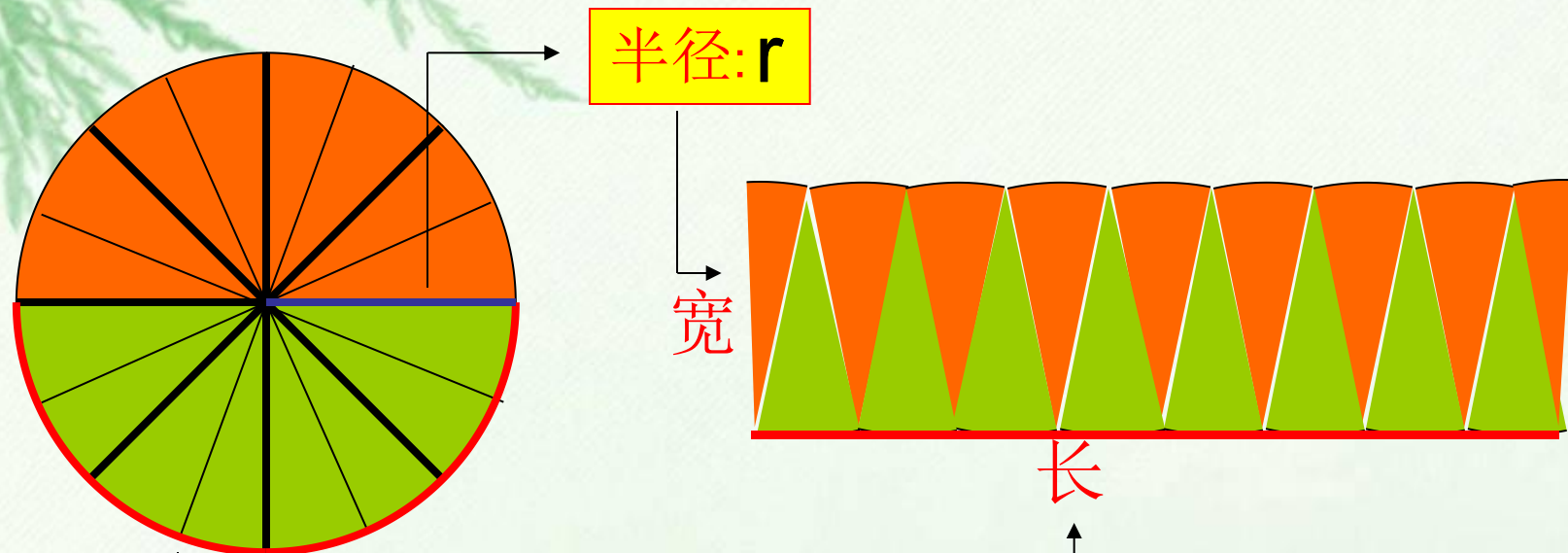












周长的一半:

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

圆的面积 = 长方形的面积 = 长 × 宽

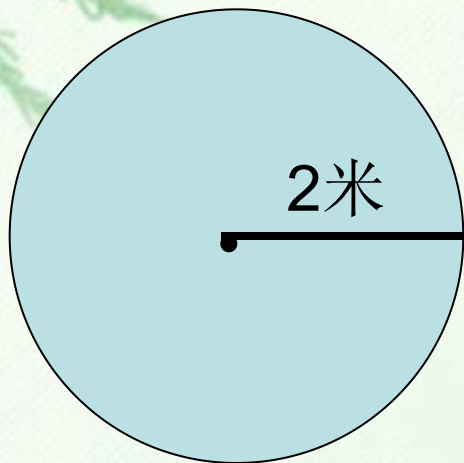
圆的面积 = ×

$$S = \pi r^2$$

播放

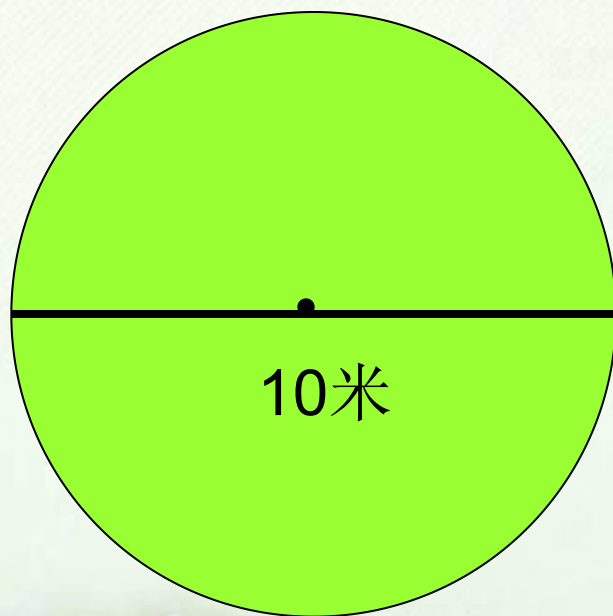


求下面各圆的面积。



$$\begin{aligned} & 3.14 \times 2^2 \\ &= 3.14 \times 4 \\ &= 12.56 \quad (\text{平方米}) \end{aligned}$$

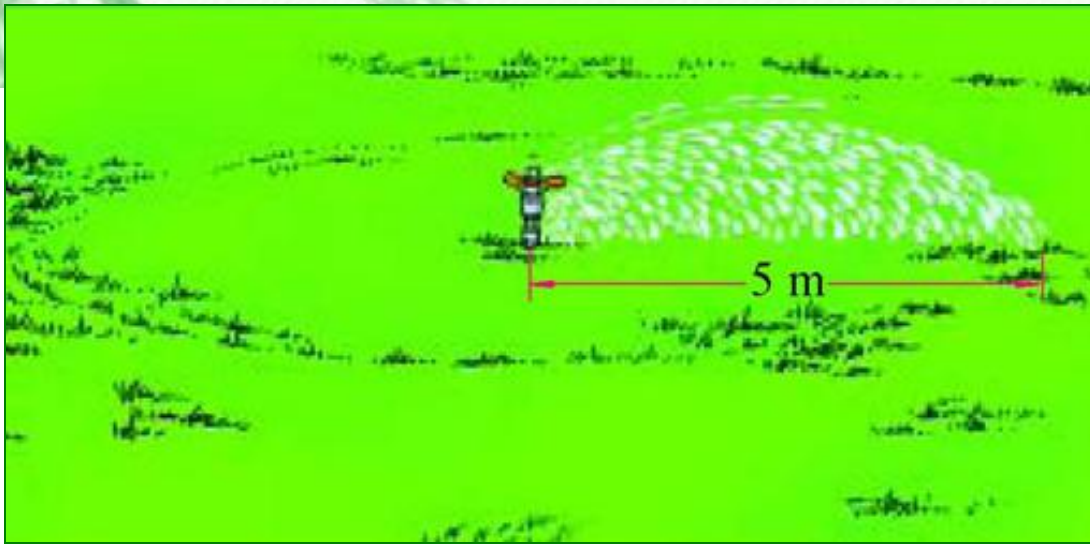
答：它的面积是12.56平方米。



$$\begin{aligned} & 3.14 \times (10 \div 2)^2 \\ &= 3.14 \times 25 \\ &= 78.5 \quad (\text{平方米}) \end{aligned}$$

答：它的面积是78.5平方米。





喷水头转动一周可以浇灌多大面积的农田？



## 练一练

列式计算：

1. 一个雷达圆形屏幕的直径是40厘米。它的面积是多少平方厘米？

$$3.14 \times (40 \div 2)^2 = 1256 \text{ (平方厘米)}$$

答：它的面积是1256平方厘米。

2. 一种自动旋转喷灌装置的射程是15米，它能喷灌的面积是多少平方米？

$$3.14 \times 15^2 = 706.5 \text{ (平方米)}$$

答：它能喷灌的面积是706.5平方米。

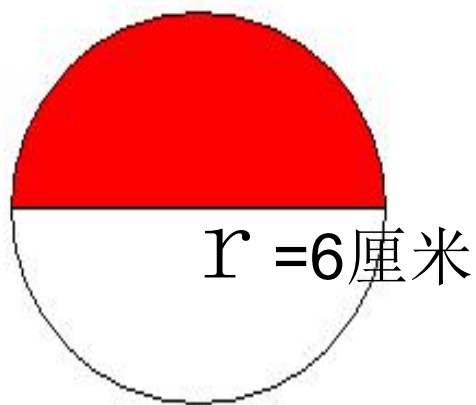


## 判断对错：

- (1) 两个圆的周长相等，面积也一定相等 (√)
- (2) 圆的半径越大，圆所占的面积也越大 (√)
- (3) 半径是2厘米的圆，它的周长和面积相等 (×)

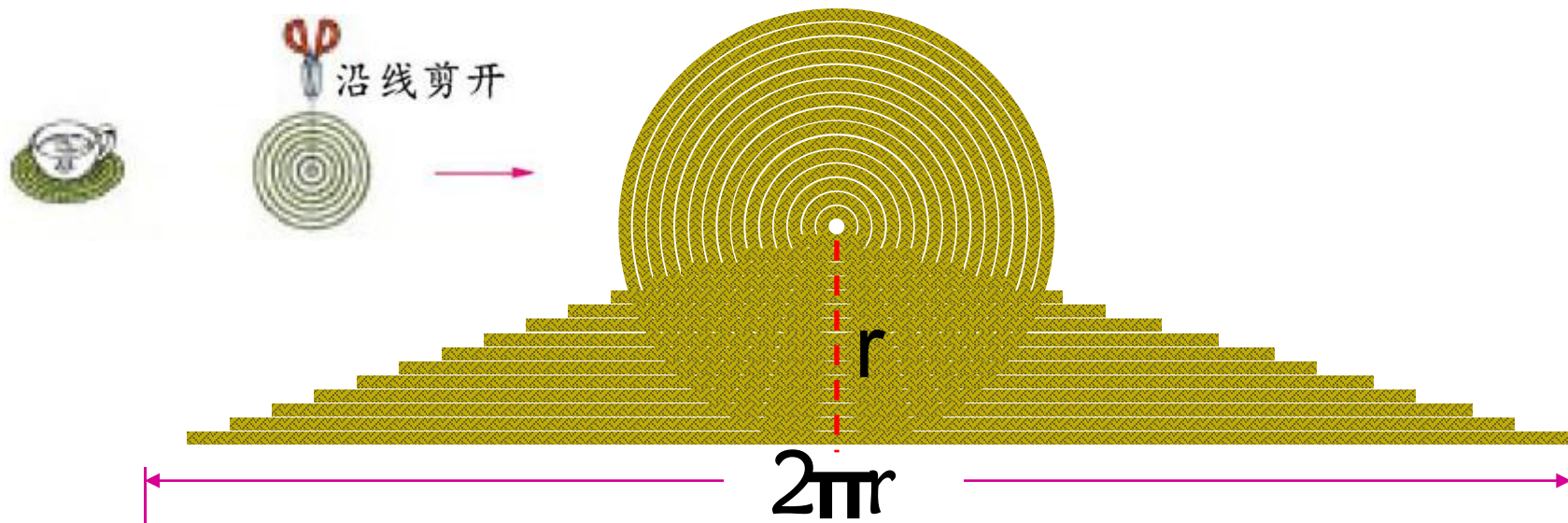
# 拓展题：

- 你能计算出下面涂色部分的面积吗？



# 生活万花筒

这是一个由草绳编织成的圆形茶杯垫片。



$$\text{三角形的面积} = \frac{\text{底} \times \text{高}}{2}$$

$$\text{所以圆的面积: } S = \frac{2\pi r \times r}{2} = \pi r^2$$