

Pre-AP Geometry  
9<sup>th</sup> Grade

# Geometric Probability

# Objectives

- apply the proportional relationship between the measure of the area of a sector of a circle and the area of the circle to solve problems;
- determine probabilities based on area to solve contextual problems;
- apply the formula for the area of regular polygons to solve problems using appropriate units of measure;
- apply theorems about circles, including relationships among angles, radii, chords, tangents, and secants, to solve non-contextual problems;

# Student Prior Knowledge

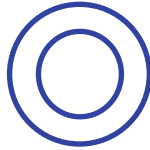
1

## Probability

$$\frac{\text{certain outcome}}{\text{total possible outcomes}}$$

2

## Concentric Circles



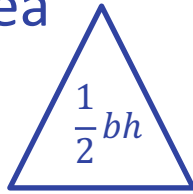
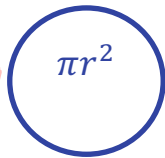
3

## Sector Area

$$\frac{\text{arc measure}}{360^\circ} = \frac{\text{area of sector}}{\text{area of circle}}$$

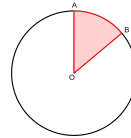
4

## Area



5

## Central Angles



# Lesson Outline

**Engage**

Measuring  
Area

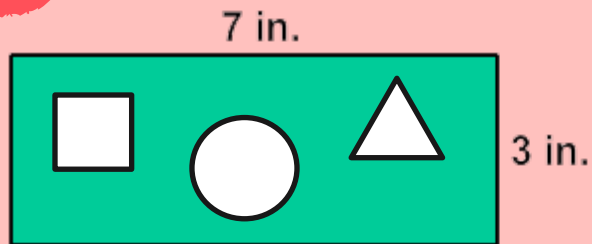
**Explore**

Game  
Stations

**Evaluate**

Homework  
Practice

# How do we find the area of these objects?



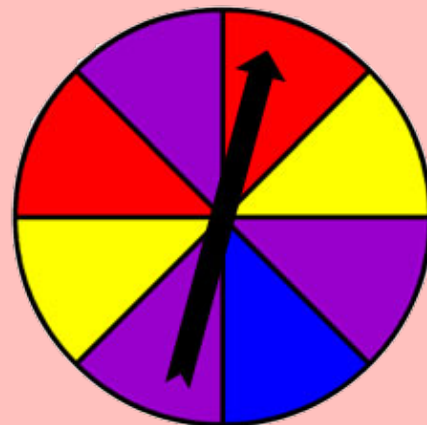
Poster



Target



Spinner



# Game Stations



5-8 minutes at each station

Record answers

# Differentiated Instruction

Incorporation of  
different learning  
styles

Challenge students with  
an open-ended question



Students can choose  
to work with a partner  
or may work alone

Connecting the  
lesson with sports  
and games



# Game Theory



# Formative Assessment

Homework with practice  
problems: computational and  
conceptual

# Summary of Learning Goals

Exit ticket or end of class  
discussion