

AP Precalculus - Session 1

Guided Practice (We Do Together)

Wednesday, January 7, 2026 | Teacher: Lyles

Name: _____ Period: _____

SECTION 1: RIGHT TRIANGLE PRACTICE (8 minutes)

Work these problems WITH YOUR CLASS. Show all work in the space provided.

Problem 1: The 5-12-13 Triangle

A right triangle has sides: opposite = 5, adjacent = 12, hypotenuse = 13

Find	Your Work	Answer
$\sin(\theta) = ?$		
$\cos(\theta) = ?$		
$\tan(\theta) = ?$		

Problem 2: Finding Missing Functions

If $\sin(\theta) = 3/5$ and $\cos(\theta) = 4/5$, find $\tan(\theta)$.

Hint: $\tan(\theta) = \sin(\theta)/\cos(\theta)$ OR opposite/adjacent

Your work:

Answer: $\tan(\theta) =$ _____

SECTION 2: DEGREE-RADIAN CONVERSIONS (12 minutes)

Remember: $180^\circ = \pi$ radians

Problem 3: Convert 60° to radians

Formula: radians = degrees $\times (\pi/180)$

Your work:

Answer: _____ radians

Problem 4: Convert $3\pi/4$ radians to degrees

Formula: degrees = radians $\times (180/\pi)$

Your work:

Answer: _____ degrees

Problems 5-9: Practice in Pairs

Work with a partner. Take turns showing the work.

Problem	Your Work	Answer
5. Convert 45° to radians		
6. Convert 150° to radians		
7. Convert $\pi/6$ to degrees		
8. Convert $5\pi/6$ to degrees		
9. Convert 270° to radians		

SECTION 3: ARC LENGTH (5 minutes)

Formula: $s = r\theta$ (where θ is in radians)

Problem 10: Find the arc length

A circle has radius $r = 6$ meters and central angle $\theta = \pi/4$ radians.

Find the arc length s .

Your work:

Answer: $s =$ _____ meters

Problem 11: Application Problem

A Ferris wheel has radius 50 feet. You travel through an angle of $2\pi/3$ radians.

How far did you travel along the circular path?

Your work:

Answer: _____ feet

✓ Check Your Understanding:

Can you explain to a partner:

- Why do we multiply by $\pi/180$ to convert degrees to radians?
- What does 1 radian actually represent?
- Why must θ be in radians for the formula $s = r\theta$ to work?