

Areas Related to Circles

Quick Study Guide

HOW TO

USE THIS GUIDE

HIGHLIGHTED TEXT SHOWS IMPORTANT POINTS

- ★ MARKS HIGH-FOCUS TOPICS
- 📝 INDICATES EXAM TIPS
- ⚠️ SHOWS COMMON ERRORS
- 💡 GIVES QUICK TIPS

CIRCLE AREA BASICS

Mnemonic: "PIZZA TIME"

- P** - Pi value use
I - Into radius square
Z - Zero confusion
Z - Zabardast formula
A - Area basic
T - Total area πr^2
I - Important value
M - Multiply proper
E - Easy formula

Remember As:
ROTI SIZE
 * Area = πr^2
 * Like pizza size
 * r = radius
 * $\pi = 22/7$ or 3.14
 * Circumference = $2\pi r$
 * Like roti edge

Common Errors
 * Wrong π value
 * Radius/Diameter mix
 * Square missing
 * Units incorrect

SECTOR AREA

Mnemonic: "PIECE WISE"

- P** - Part of circle
I - Important angle
E - Equal to ratio
C - Circle portion
E - Easy formula
W - Work with angle
I - Into full circle
S - Sector area
E - Easy ratio

QUICK FORMULA:

PIZZA CUT
 * Sector Area = $(\theta/360^\circ) \times \pi r^2$
 * Like pizza slice:
 * Angle part/Full circle
 * $\times$ Total area

EXAMPLE

* 60° sector
 * Radius 7cm
 * Area = $(60/360) \times \pi \times 7^2$
 * = $(1/6) \times 154 = 25.67\text{cm}^2$

ARC LENGTH

Mnemonic: "BORDER LINE"

- B** - Boundary length
O - Of sector
R - Radius use
D - Degree important
E - Easy calc
A - Remember ratio

- L** - Length formula
I - Important part
N - Note angle
E - Easy solve

REMEMBER AS:
CHAKKAR LINE:
 * Arc length = $(\theta/360^\circ) \times 2\pi r$
 * Like: Band length
 * Or: Cycle tyre part
 * Ratio $\times$ Circumference

SEGMENT AREA

Mnemonic: "KATAA AREA"

- K** - Cut portion
A - Area minus
T - Triangle subtract
A - Angle based
A - Area find

- A** - Area of sector
A - Remove triangle
E - Easy steps
A - Answer get

STEPS REMEMBER:

- MINUS KARO:**
 1. Find sector area
 2. Find triangle area
 3. Subtract triangle
 4. Get segment area

COMBINED AREAS

Mnemonic: "TOTAL BOSS"

- T** - Total parts
O - Overall sum
T - Together add
A - Area combine
L - Logic use

- B** - Break into parts
O - One by one solve
S - Sum all parts
S - Simple addition

QUICK STEPS:

- PARTS GAME:**
 1. Break figure
 2. Solve each part
 3. Add/Subtract
 4. Final answer

PRACTICAL PROBLEMS

Mnemonic: "REAL LIFE"

- R** - Real examples
E - Easy relate
A - Apply formula
L - Life problems

- L** - Learn usage
I - Important apps
F - Find area
E - Easy examples

COMMON EXAMPLES:

- DAILY USE:**
 1. Garden paths
 2. Circular parks
 3. Pizza slices
 4. Race track
 5. Circular fields



PROBLEM SOLVING

Mnemonic: "SOLVE KARO"

- S** - See figure
O - Observe parts
L - List formulas
V - Values check
E - Equation make
K - Keep checking
A - All parts clear
R - Right formula
O - Order maintain

IMPORTANT STEPS:

1. Draw diagram
2. Mark all values
3. Choose formula
4. Step solution
5. Unit check

PLAN BANA:

QUICK REVISION CHECKLIST

Before Exam:

- ✓ Circle area
- ✓ Sector formulas
- ✓ Arc length
- ✓ Segment area
- ✓ Combined shapes
- ✓ Applications
- ✓ Units

Scoring Tips:

1. Draw neat figures
2. Show all steps
3. Write formulas
4. Check units
5. Verify answers

100%

HIGH FOCUS AREAS

1. Circle Area (5 marks)
2. Sector Area (5 marks)
3. Segment Area (5 marks)
4. Combined Areas (4 marks)

QUICK FORMULAS

Mnemonic: "EXAM HERO"

FORMULA KING

1. Circle Area = πr^2
2. Circumference = $2\pi r$
3. Sector Area = $(\theta/360^\circ) \times \pi r^2$
4. Arc Length = $(\theta/360^\circ) \times 2\pi r$
5. Segment = Sector - Triangle

IMPORTANT VALUES:

- * $\pi = 22/7$ or 3.14
- * Full circle = 360°
- * Half circle = 180°
- * Quarter = 90°

AREA UNITS:

- * Always in square units
- * cm^2 for small circles
- * m^2 for bigger areas
- * Remember conversion

GOOD LUCK!

