Name: ANSWER KEY Class: Date: Points 10

Test B

Unit 7: Circles

Chapter 2: Area

FORMULAS

Circle circumference = $\pi \cdot D = 2\pi r$

Circle Area = $\pi \cdot r^2$

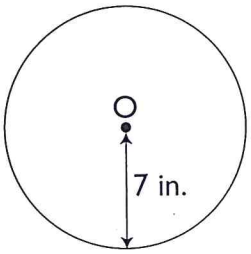
Square or Rectangle Area = length × width

Triangle Area = $\frac{1}{2}$ × base × height

Circle the correct option, **A**, **B**, **C** or **D**.

In this test, take $\pi = \frac{22}{7}$ unless otherwise stated.

1. O is the center of the circle. Find the area of the circle.



$A = \pi r^2 = \frac{22}{7} \times 7^1 \times 7$

$= 154 \text{ in}^2$.

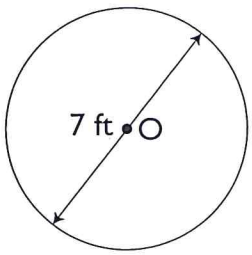
A 44 in.^{2}

B 88 in.^{2}

C 154 in.^{2}

D 616 in.^{2}

2. O is the center of the circle. Find the area of the circle.



$A = \pi \cdot r^2$

$= 3.14 \times 3.5 \times 3.5$

$= 38.46 \text{ ft}^2$

A $28\frac{1}{2}$ ft^2

B $38\frac{1}{2}$ ft^2

C 11 ft^2

D 154 ft^2

3. The radius of a circle is $\frac{1}{4}$ in. Find its area.

A $\frac{11}{14}$ in.^{2}

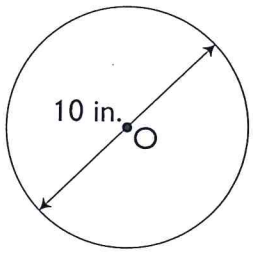
B $\frac{11}{56}$ in.^{2}

C $\frac{11}{224}$ in.^{2}

D $1\frac{4}{7}$ in.^{2}

$A = \frac{22}{7} \times \frac{1}{4} \times \frac{1}{4} = \frac{11}{56}$ in^2

4. The figure shows a circle with center O. Which of the following statements are true?



$A = \pi \cdot 5^2$
$= \pi \cdot 25$

I. The radius of the circle is 10 in.
II. The area of the circle is 25π in.^{2}.
III. The diameter of the circle passes through the center of the circle.

A I & II

B II & III

C I & III

D All of the above

5. The radius of a circle is 6 cm. Find its area. (Take $\pi = 3.14$)

A 18.84 cm^2

B 28.26 cm^2

C 37.68 cm^2

D 113.04 cm^2

$A = 3.14 \times 6 \times 6 = 113.04$ cm^2

Name: _____ Class: _____ Date: _____ Points 10

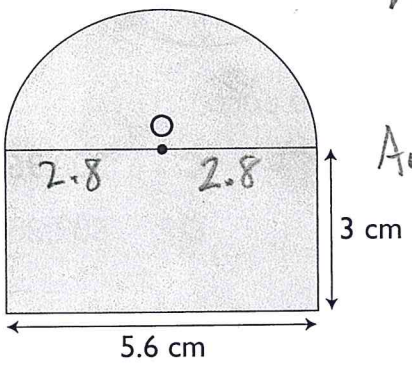
Test B

Unit 7: Circles

Chapter 3: Composite Figures

Circle the correct option, **A**, **B**, **C** or **D**.

1. The figure shows a semicircle and a rectangle. Find the area of the figure. (Take $\pi = \frac{22}{7}$)

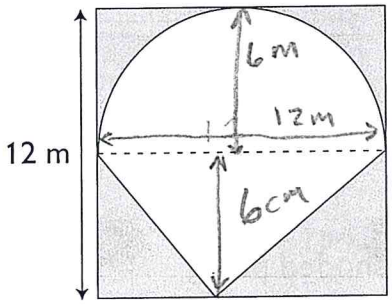


Area rectangle $= 5.6 \times 3$
$= 16.8 \text{ cm}^2$

Area semicircle
$A = \frac{22}{7} \times 2.8 \times 2.8 \times \frac{1}{2}$
$A = 12.32 \text{ cm}^2$

A 29.12 cm²
B 41.44 cm²
C 66.08 cm²
D 115.36 cm²

2. The figure shows a semicircle and triangle within a square. Find the area of the shaded part. (Take $\pi = 3.14$)



Area of square $= 12 \times 12$
$= 144 \text{ m}^2$

Area Triangle
$\frac{1}{2} \times 12 \times 6 = 36 \text{ m}^2$

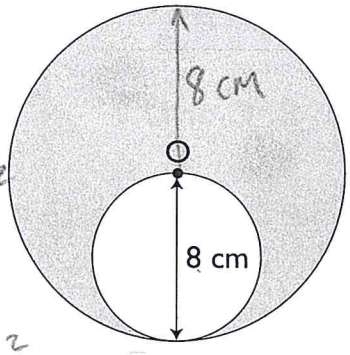
Area Semicircle
$= 3.14 \times 6 \times 6 \times \frac{1}{2}$
$= 56.52 \text{ m}^2$

$144 - 36 - 56.52 = 51.48 \text{ m}^2$

A 149.04 m²
B 144 m²
C 92.52 m²
D 51.48 m²

Refer to the figure below to answer Questions 3 & 4.

The figure shows a smaller circle within another bigger circle. O is the center of the bigger circle. (Take $\pi = 3.14$)



Area Big = $\pi \cdot r^2$
$= 3.14 \times 8^2$
$= 200.96 \text{ cm}^2$

Area Small = πr^2
$= 3.14 \times 4^2$
$= 50.24 \text{ cm}^2$

$200.96 - 50.24 = 150.72$

3. Find the area of the shaded part.

A	50.24 cm^2	**C**	200.96 cm^2
B	150.72 cm^2	**D**	602.88 cm^2

4. Find the perimeter of the shaded part. = circumference of BOTH circles

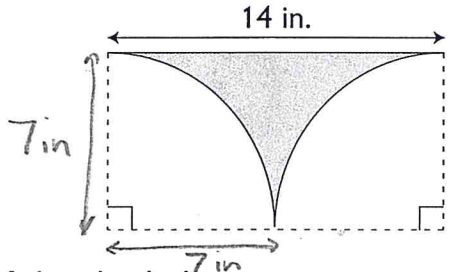
A	25.12 cm	**C**	75.36 cm
B	50.24 cm	**D**	150.72 cm

$C = 3.14 \times 16$
$= 50.24 \text{ cm}$

$C = 3.14 \times 8$
$= 25.12$

Refer to the figure below to answer Questions 5 & 6.

The figure shows two quarter circles within a rectangle. (Take $\pi = \frac{22}{7}$)



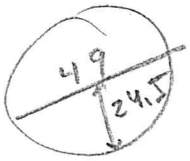
Area of semicircle
$= \frac{22}{7} \times 7 \times 7 \times \frac{1}{2}$
$= 77 \text{ in}^2$

Area rectangle
$= 14 \times 7$
$= 98 \text{ in}^2$

5. Find the area of the shaded part.

A	21 $in.^2$	**C**	98 $in.^2$
B	77 $in.^2$	**D**	175 $in.^2$

$98 - 77 = 21 \text{ in}^2$



6. The diameter of a circle is 49 m. Find its area.

A 154 m^2

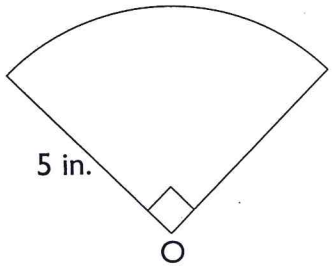
B 308 m^2

C 1886.5 m^2

D 7546 m^2

$A = \pi \cdot r^2$
$= 3.14 \times 24.5^2$
$= 1884.8\ m^2$

7. The figure shows a part of a circle with center O. Find its area. (Take $\pi = 3.14$)



$A = \pi \cdot r^2 \times \frac{1}{4}$
$= 3.14 \times 5 \times 5 \times \frac{1}{4}$
$= 19.625\ in^2$

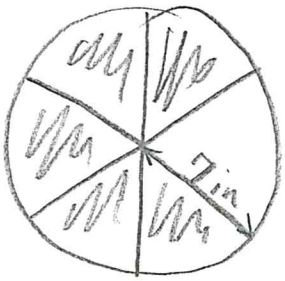
A 18.625 $in.^2$

B 15.7 $in.^2$

C 19.625 $in.^2$

D 78.5 $in.^2$

8. $\frac{5}{6}$ of a circle is shaded. The radius of the circle is 7 in. Find the area of the shaded part.



A $128\frac{1}{3}$ $in.^2$

B $36\frac{2}{3}$ $in.^2$

C $18\frac{1}{3}$ $in.^2$

D 154 $in.^2$

$Area = \pi \cdot r^2 \times \frac{5}{6}$
$= 3.14 \times 7 \times 7 \times \frac{5}{6}$
$= 128.22\ in^2$

Refer to the information below to answer Questions 9 & 10.

A circle has a circumference of 13.2 cm.

9. Find the diameter of the circle.

$C = \pi \cdot D$

$D = \frac{C}{\pi} = \frac{13.2}{3.14}$

$= 4.2 \text{ cm}$

A	2.1 cm	**C**	8.4 cm
B	4.2 cm	**D**	None of the above

10. Find the area of the circle.

A	3.465 cm^2	**C**	13.86 cm^2
B	55.44 cm^2	**D**	221.76 cm^2

$A = \pi \cdot r^2$

$= 3.14 \times 2.1^2$

$= 13.85 \text{ cm}^2$