Mathematics

(www.tiwariacademy.com)

(Chapter – 6) (Measuring Space: Perimeter and Area) (Assignment 1)
(Class – 9)

Name _____ Date _____

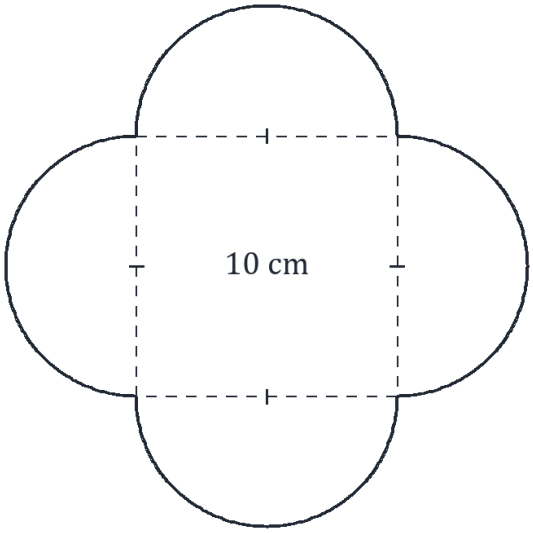
Answer all 15 questions. Choose one option for each MCQ. Show your working. Use $\pi \approx 22/7$ unless specified otherwise. Leave answers in terms of π when asked.

Section A: Multiple Choice Questions

1. The perimeter of a circle is 44 cm. What is its radius?

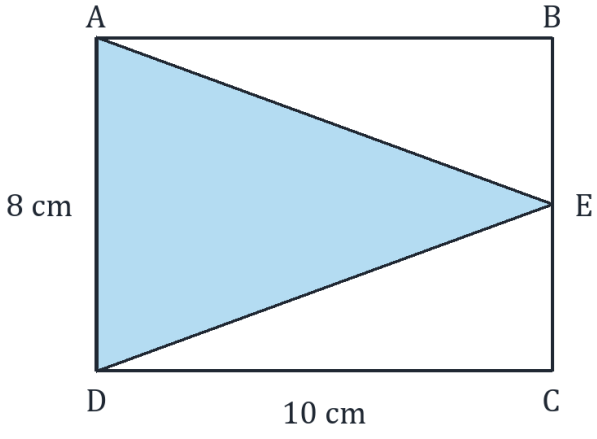
(a) 3.5 cm
(b) 7 cm
(c) 14 cm
(d) 22 cm

2. Find the perimeters of the following shapes (taking the arcs to be quarter or half or three-quarters of a circle, as appropriate) (see figure):



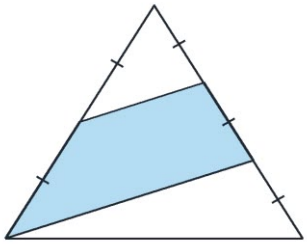
(a) 10π cm
(b) 20π cm
(c) 40π cm
(d) $40 + 10\pi$ cm

3. Find the area of triangle ADE in the figure.



(a) 20 cm^2
(b) 40 cm^2
(c) 80 cm^2
(d) 160 cm^2

4. What fraction of the triangle is shaded?



(a) 1/3
(b) 2/5
(c) 1/2
(d) 2/3

5. Which statement about π is correct?

(a) π is exactly 22/7.
(b) π is exactly 3.14.
(c) π is irrational.
(d) π changes with circle size.

Section B: Very Short Answer Questions

6. Calculate, correct to 3 significant figures, the circumference of a circle with: (i) radius 7 cm.

Answer:

7. Calculate the length of the arc of a circle if: (i) the radius is 3.5 cm and the angle at the centre is 60°.

Answer:

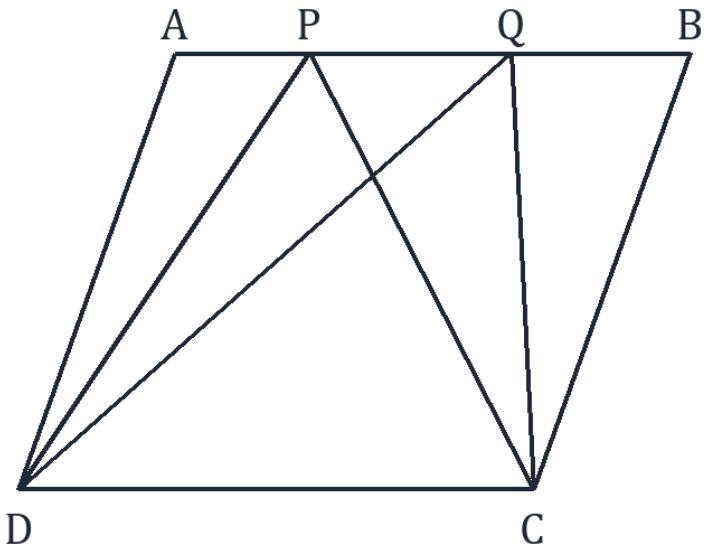
8. Find the area of a sector of a circle with radius 7 cm if the angle of the sector is 60°.

Answer:

9. An isosceles triangle has base 10 cm, and its area is 60 cm^2. What are the lengths of the equal sides?

Answer:

10. ABCD is a parallelogram. P and Q are any two points on side AB. What can you say about the ratio area (ΔPCD): area (ΔQCD)?



Answer:

Mathematics

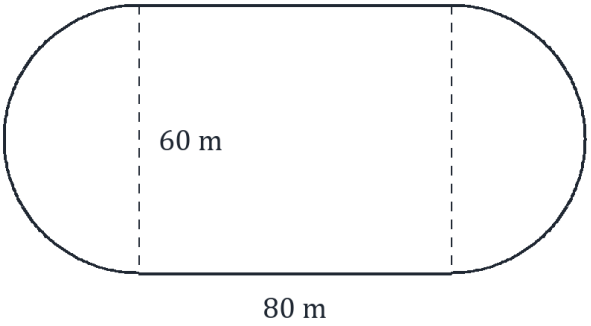
(www.tiwariacademy.com)

(Chapter – 6) (Measuring Space: Perimeter and Area) (Assignment 1)

(Class – 9)

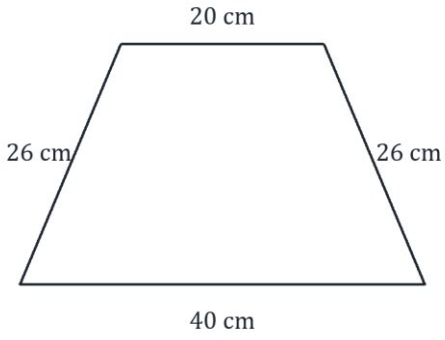
Section C: Short and Long Answer Questions

11. Find the perimeters of the following shapes (taking the arcs to be quarter or half or three-quarters of a circle, as appropriate) (see figure):



Answer:

12. The parallel sides of a trapezium are 40 cm and 20 cm. If its non-parallel sides are both equal, each being 26 cm, find the area of the trapezium.

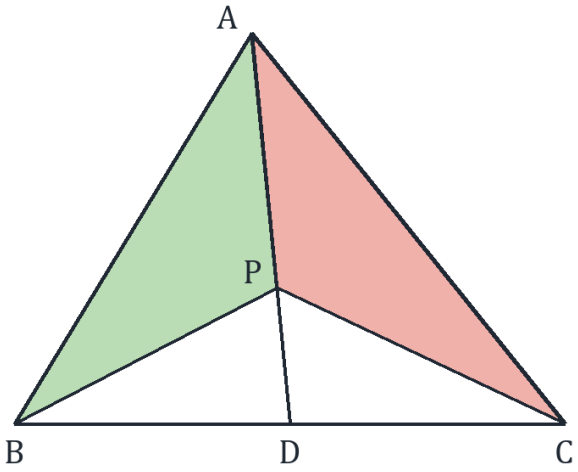


Answer:

13. A rectangular park is 28 m long and 20 m wide. A path 2 m wide runs all around its inside edge. Find the area of the path and the length of fencing needed around the outer boundary.

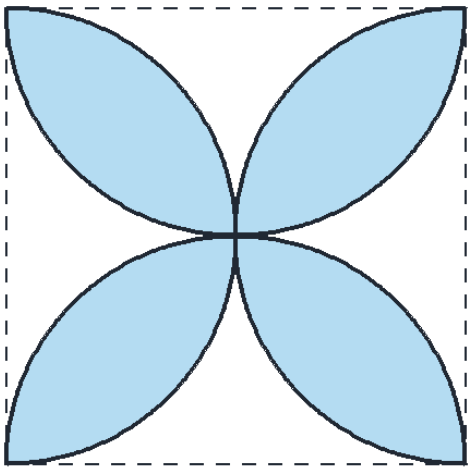
Answer:

14. In ΔABC, the midpoint of BC is D (see figure). Median AD is drawn. P is any point on AD. Show that area (ΔABP) = area (ΔACP).



Answer:

15. In the figure, four semicircles have been drawn within the given square whose side is 2 units. The centres of these semicircles are the midpoints of the sides. They create a 4-petalled flower (shown in blue). Find the perimeter and the area of this flower.



2

Answer: