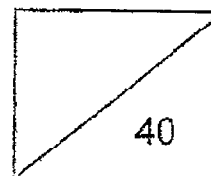
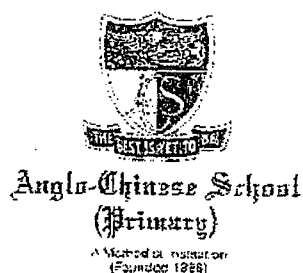


Parent's signature: _____

Date: _____



Mathematics

Name: _____ () Class: P 6 _____ Date: _____

Topical Test 2: Ratio / Circles / Angles in Geometrical Figures

Section A - Multiple-Choice Questions: (3 Marks)

Questions 1 to 3 carry 1 mark each..

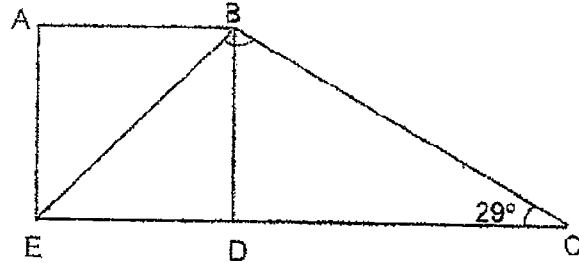
Write your options in the () provided. The use of calculators is **NOT** allowed.

- 1) There are some red, yellow and blue buttons in a jar. The ratio of the number of red to the total number of blue and yellow buttons is 4 : 7. The ratio of the number of blue to the number of yellow buttons is 2 : 3. What is the ratio of the number of blue buttons to the number of red buttons?

- (1) 1 : 2
- (2) 7 : 2
- (3) 2 : 3
- (4) 7 : 10

()

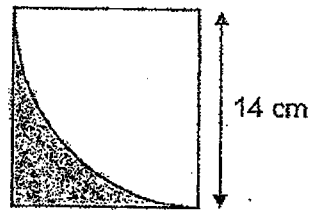
- 2) In the figure below, ABDE is a square and CDE is a straight line.
 $\angle BCD = 29^\circ$.
 Find $\angle CBE$.



- (1) 61°
 (2) 74°
 (3) 106°
 (4) 135°

()

- 3) The figure below shows a square and a quadrant.
 Find the perimeter of the shaded part. (Take $\pi = \frac{22}{7}$)



- (1) 22 cm
 (2) 36 cm
 (3) 39 cm
 (4) 50 cm

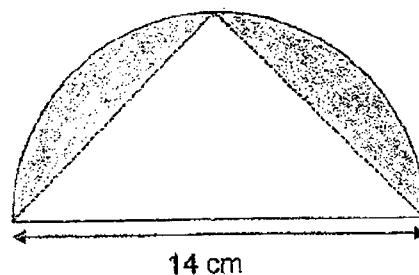
()

Section B (3 x 1 mark) Open-ended Questions

Write your answer in the spaces provided. For questions which requires units, give your answer in the units stated. The use of calculators is **NOT** allowed.

- 4) The figure below is made up of a semicircle of diameter 14 cm and a triangle.
Find the area of the shaded part.

(Take $\pi = \frac{22}{7}$)

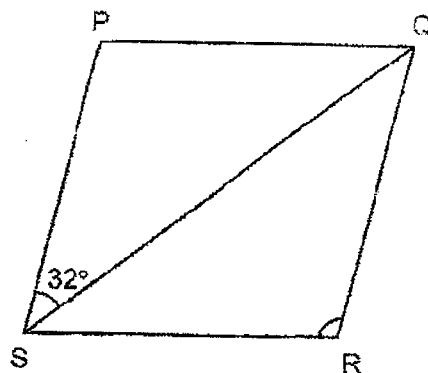


Ans: _____ cm²

- 5) At a carnival, the ratio of the number of adults to the number of children was 3 : 5. The ratio of the number of men to the number of women was 2 : 3.
What was the ratio of the number of men to the number of children?
(Give your answer in the simplest form)

Ans: _____

- 6) The figure below is a rhombus PQRS and $\angle PSQ = 32^\circ$. Find $\angle QRS$.

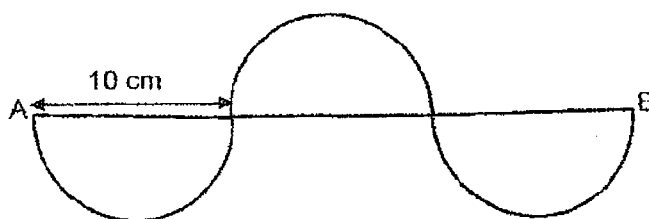


Ans: _____°

Section C (34 marks)

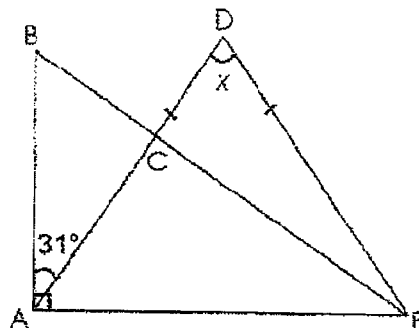
There are 11 questions in this section. All working must be shown clearly. Number of marks available is shown in brackets [] at the end of each question or part-question. The use of calculators is allowed.

- 7) The figure below shows 3 identical semicircles. AB is a straight line.
The diameter of each semicircle is 10 cm. Find the perimeter of the figure.
Express your answer in terms of π .



Ans: _____ cm [2]

- 8) The figure below is made up of a right-angled triangle ABE and an isosceles triangle ADE. Given that $\angle BAD = 31^\circ$. Find $\angle x$.

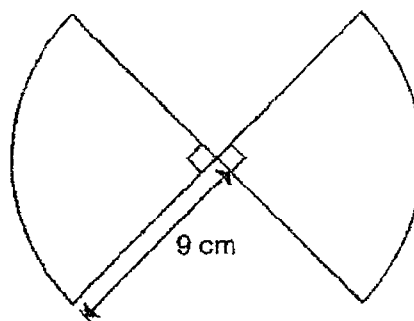


Ans: _____ [2]

- 9) Geena, Harry and Ethan shared the cost of their father's birthday present in the ratio of 5 : 3 : 1. The present cost \$180. How much more than Ethan did Geena pay for the present?

Ans: \$ _____ [2]

- 10) The figure below shows 2 identical quarter circles with the radius of 9 cm.
Find the perimeter of the figure.
(Take $\pi = 3.14$)

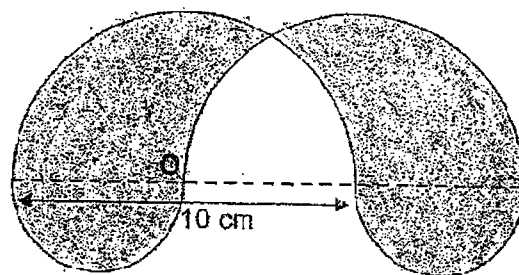


Ans: _____ cm [2]

- 11) David has a number of 10¢, 20¢ and 50¢ coins in the ratio 1 : 2 : 5. The total value of all the coins is \$90. What is the total value of the 50¢ coins?

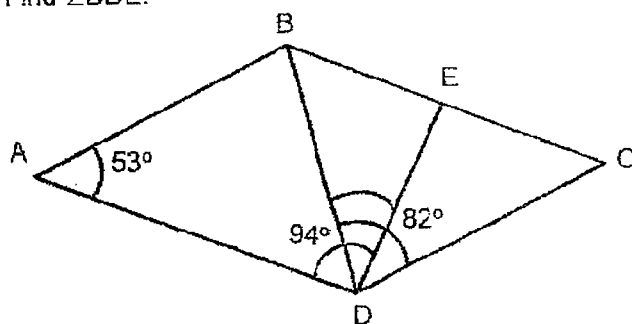
Ans: _____ [3]

- 12) The figure below is made up of 4 semicircles. O is the centre of the big semicircle of diameter 10 cm. Find the perimeter of the shaded part. (Take $\pi = 3.14$).



Ans: _____ [3]

- 13) In the figure below, ABCD is a parallelogram. $\angle BAD = 53^\circ$, $\angle ADE = 94^\circ$, $\angle BDC = 82^\circ$. Find $\angle BDE$.



Ans: _____ [4]

- 14) The ratio of the number of kiwis to the number of pears in Basket A was 5 : 8. There were thrice as many kiwis as pears in Basket B. The fruit seller transferred $\frac{1}{4}$ of the pears from Basket A to Basket B. There were 308 fruits left in Basket A and the ratio of the number of kiwis to the number of pears in Basket B became 7 : 5.
- (a) What was the ratio of the number of kiwis to the number of pears in Basket A in the end?
- (b) Find the total number of fruits in Basket B in the end.

Ans: (a) _____ [1]

(b) _____ [3]

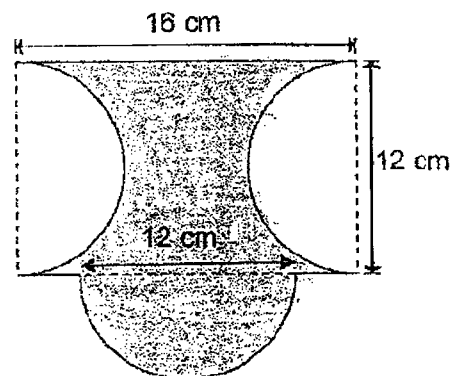
- 15) The figure is made up of a semicircle with diameter 12 cm and a rectangle measuring 12 cm by 16 cm. Two identical semicircles are cut out from the rectangle.

(a) Using calculator value of π , find the area of the shaded part.

Give your answer correct to 2 decimal places.

(b) Using calculator value of π , find the perimeter of the shaded part.

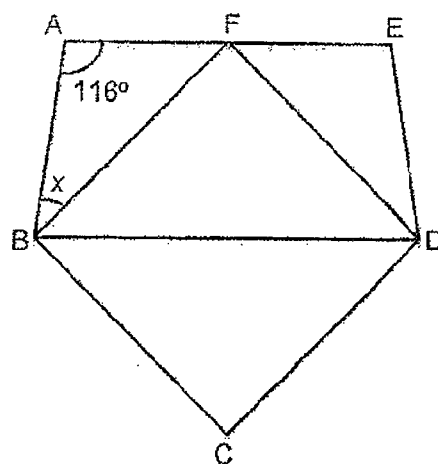
Give your answer correct to 2 decimal places.



Ans: (a) _____ [2]

(b) _____ [3]

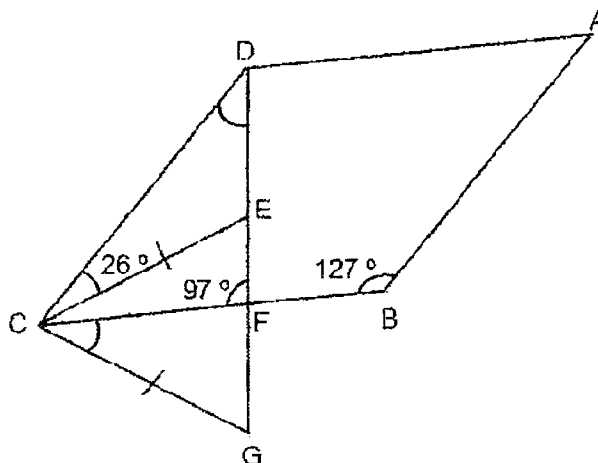
- 16) ABDE is a trapezium and BCDF is a square. $AE \parallel BD$. Find $\angle x$.



Ans: _____ [3]

- 17) In the figure below, ABCD is a parallelogram.
 $CE = CG$ and DFG is a straight line.
 Given that $\angle CFD = 97^\circ$, $\angle DCE = 26^\circ$ and $\angle ABC = 127^\circ$

- a) Find $\angle CDG$.
 b) Find $\angle GCB$



Ans: (a) _____ [2]

(b) _____ [2]

End of Paper

YEAR : 2025

LEVEL : PRIMARY 6

SCHOOL : ANGLO-CHINESE SCHOOL (PRIMARY)

SUBJECT : MATHEMATICS

TERM : TOPICAL TEST 2

Q1	4	Q2	3	Q3	4
Q4	$D = 14$ $R = 14 \div 2 = 7$ $\frac{1}{2} \times 14 \times 7 = 49$ $\text{Semi circle} = \frac{1}{2} \times \frac{22}{7} \times 7 \times 7 = 77$ $77 - 49 = 28\text{cm}^2$			Q5	$a : c$ $3 : 5$ $m : w$ $2 : 3$ $m : w$ $6 : 9$ $m : c$ $6 : 25$
Q6		$\frac{1}{2}$ of rhombus = isosceles triangle $PQS + PSQ = 32 + 32 = 64$ $QRS = QPS$ $QRS = 180 - 64 = 116^\circ$		Q7	$10 \times 3 = 30$ $10 + 2 = 5$ $\frac{1}{2} \times \pi \times 10 = 5\pi$ $5\pi \times 3 = 15\pi$ $15\pi + 30 = (15\pi + 30)\text{cm}$
Q8		$DAE = 90 - 31 = 59$ $DAE = DEA = 59$ $180 - 59 - 59 = 62^\circ$		Q9	$G : H : E$ $5u : 3u : 1u$ $\text{Total } \$180$ $5u + 3u + 1u = 9u$ $9u = 180$ $1u = 20$ $5u - 1u = 4u$ $20 \times 4 = \$80$
Q10	$9 \times 4 = 36$ $D = 9 \times 2 = 18$ $\frac{1}{4} \times 3.14 \times 18 = 14.13$ $14.13 \times 2 = 28.26$ $28.26 + 36 = 64.26\text{cm}$			Q11	$0.10 : 0.20 : 0.50$ $1 : 2 : 5$ $10\text{c} : 40\text{c} : 25\text{c}$ $0.10 : 0.40 : 2.50$ $0.10 + 0.40 + 2.50 = 3$ $90 + 3 = 30$ $30 \times 2.5 = \$75$
Q12	$\frac{1}{2} \times 3.14 \times 5 = 7.85$ $7.85 \times 2 = 15.7$ $3.14 \times 10 = 31.4$ $3.14 \times 5 = 15.7$ $31.4 + 15.7 = 47.1\text{cm}$			Q13	$ADC = 180 - 53$ $= 127$ $CDE = 127 - 140 = 33$ $BDE = 82 - 33 = 49^\circ$

Q14	(a) <table border="1"> <tr> <td colspan="2">A : B</td> </tr> <tr> <td>K : P</td> <td>K : P</td> </tr> <tr> <td>5 : 8</td> <td>3 : 1</td> </tr> <tr> <td>$8 - 2 = 6$</td> <td>7 : 5</td> </tr> <tr> <td>5 : 6</td> <td>21 : 15</td> </tr> </table> Ans : 5:6 (b) $5u + 6u = 11u$ $11u = 308$ $1u = 308 \div 11 = 28$ $2u = 28 \times 2 = 56$ $56 \div 8 = 7$ $21u + 10u = 36u$ $36 \times 7 = 252$	A : B		K : P	K : P	5 : 8	3 : 1	$8 - 2 = 6$	7 : 5	5 : 6	21 : 15	Q15	(a) $12 \div 2 = 6$ $\frac{1}{2} \times \pi \times 6 \times 6 = 18\pi$ $16 \times 12 = 192$ $\frac{1}{2} \times \pi \times 6 \times 6 = 18\pi$ $192 - 18\pi = 135.451$ $\approx 135.45\text{cm}^2$ $\frac{1}{2} \times \pi \times 12 = 6\pi$ $6\pi \times 2 = 12\pi$ $12\pi + 6\pi = 18\pi$ $16 + 4 = 20$ $20 + 18\pi = 76.548$ $\approx 76.55\text{cm}$
A : B													
K : P	K : P												
5 : 8	3 : 1												
$8 - 2 = 6$	7 : 5												
5 : 6	21 : 15												
Q16	FBD = $90 \div 2 = 45$ AFB = $(180 - 90) \div 2 = 45$ $180 - 45 - 116 = 19^\circ$	Q17	(a) BCD = $180 - 127 = 53$ CDG = $180 - 97 - 53 = 30$ (b) ECF = $53 - 26 = 27$ CEF = $180 - 97 - 27$ = 56 GCB = $180 - 56 - 56 - 27 = 41^\circ$										

2
END