CEDAR PRIMARY SCHOOL
PRELIMINARY EXAMINATION
PAPER 1

Questions 1 to 10 carry 1 mark each. Questions 11 to 15 carry 2 marks each. For each question, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the oval on the Optical Answer Sheet. (20 marks)

1. What is the value of $y + \frac{3y}{2}$ when y = 5?

    (1) 10

    (2) 12.5

    (3) 17.5

    (4) 22.5

2. In the number line below, what is the number indicated by the arrow?

    (1) 1.03

    (2) 1.06

    (3) 1.14

    (4) 1.6

3. Find the value of 16 + (40 − 8) ÷ 4 × 2 .

    (1) 6

    (2) 24

    (3) 32

    (4) 48

4. Water from a tap flows into an empty tank at a rate of 24 mℓ per minute. At this rate, how much water is collected in the tank after 1 hour?

    (1) 1.44 mℓ

    (2) 1.44 ℓ

    (3) 144 ℓ

    (4) 1440 ℓ

5. Jenny and Tim have a total of 180 stamps in the ratio of 4 : 5. How many stamps did Tim have?

    (1) 20

    (2) 80

    (3) 100

    (4) 120

6. How many centimetres are there in $1\frac{1}{4}$ metres?

    (1)   150 cm

    (2)   140 cm

    (3)   125 cm

    (4)   15 cm

7. An ant ran 3 complete rounds along the circumference of a circular wheel of radius 4 cm. What was the total distance it ran in terms of π?

    (1) 12π cm

    (2) 18π cm

    (3) 24π cm

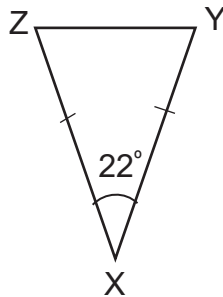   (4) 40π cm

8.   In the figure, (not drawn to scale), ABCD is a rectangle. Find ∠CEF.
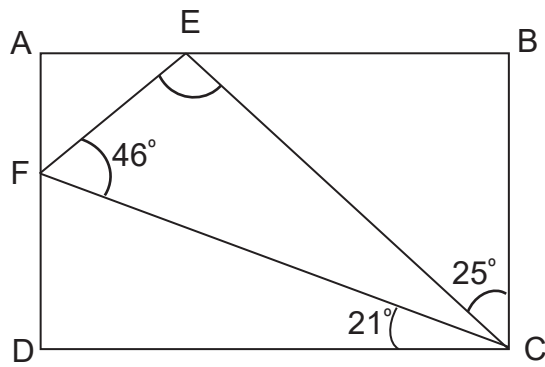
(1)   25°

(2)   46°

(3)   67°

(4)   90°

9.   The figure below shows an isosceles triangle XYZ with XY = XZ. ∠YXZ = 22°

Find ∠XYZ.

(1)   11°

(2)   22°

(3)   79°

(4)   158°

10. The graph below shows the temperature of water over a period of time.
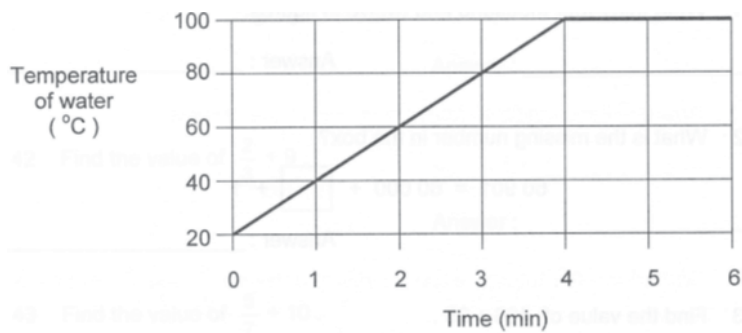
The temperature of the water after 2 minutes is 60°C.
How **much longer** will it take to first reach 100°C?

(1) 1 minute

(2) 2 minutes

(3) 3 minutes

(4) 4 minutes

11. The figure shows a quadrant and a square of area 49 cm². Find the area of the shaded part. Take $\pi = \frac{22}{7}$.
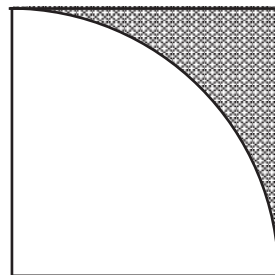
(1) 10.5 cm²

(2) 38.5 cm²

(3) 49 cm²

(4) 77 cm²

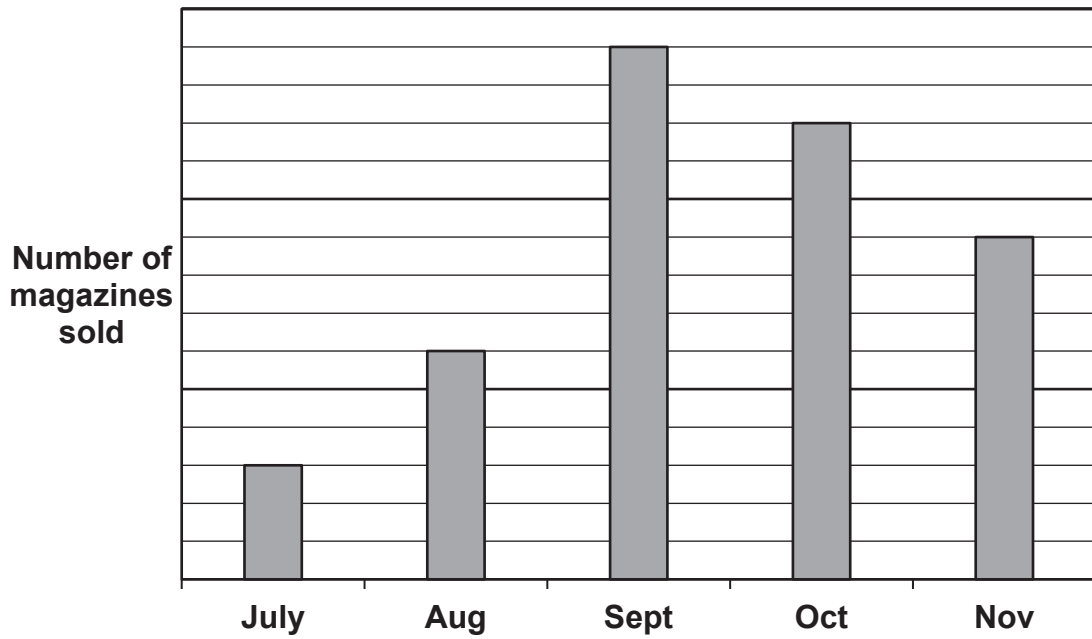12. Given that PQR is an isosceles triangle and PQS is an equilateral triangle, find $\angle w$.
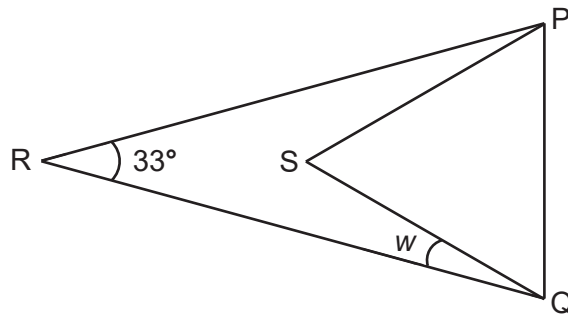
(1)   13.5°

(2)   33°

(3)   60°

(4)   73.5°

13. A table with 4 columns is filled with numbers in a certain pattern. The first 4 rows of the table are shown below.

	Column A	Column B	Column C	Column D
Row 1	1	2	3	4
Row 2	8	7	6	5
Row 3	9	10	11	12
Row 4	16	15	14	13
………				

In which column will the number 592 appear?

(1)   A

(2)   B

(3)   C

(4)   D

14.

The bar graph above represents the number of magazines sold from July to November. The number of magazines sold is **not** shown on the scale.

In July, 9 magazines were sold. How many magazines were sold in September?

- (1)   14
- (2)   23
- (3)   28
- (4)   42

15. The diagram below is made up of a rectangle DEGF and a shaded triangle. The length of EH is half the length of EG. The total area of the unshaded parts is 192 cm². Find the area of the shaded triangle.
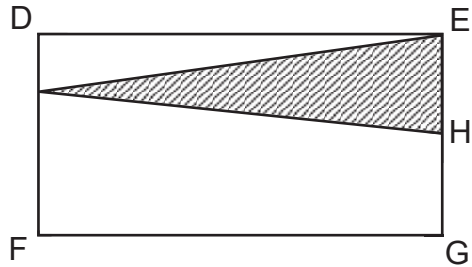
(1) 96 cm²

(2) 64 cm²

(3) 48 cm²

(4) 24 cm²

End of Booklet A

16. Express 20 ÷ 5000 as a decimal.

Ans : _____

_____

17. In the figure, PQ is a straight line. Find ∠ a.
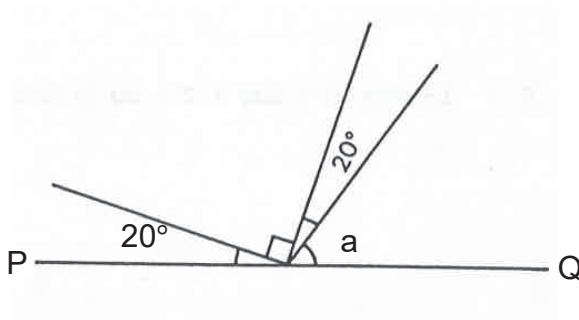
Ans : _____°

_____

18. The total mass of 7 apples is 1 kg 50 g. What is the average mass of an apple?

Ans : _____g

_____

19. The figure shows a quarter-circle. Find its perimeter. (Take $\pi = \frac{22}{7}$)

21 cm

Ans : _____cm

_____

20. In the figure below, AB, CD and EF are straight lines. Find $\angle$ m.

A

130°

C — F — D

m

35°

B

E

Ans : _____°

_____

3

Questions 21 to 30 carry 2 marks each. Show your working clearly in the space provided for each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. **(20 marks)**
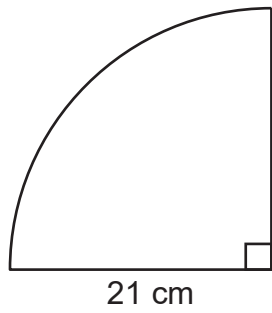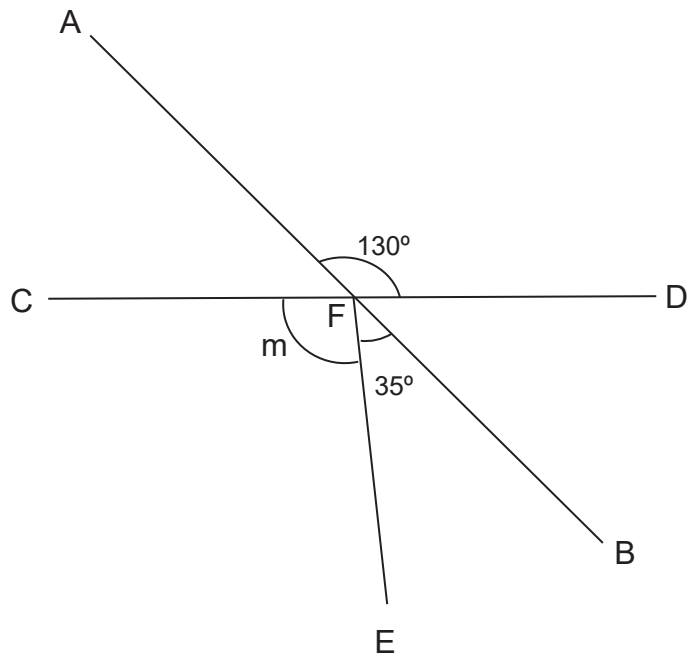
21.   Use all the digits 3, 6 , 7 , 8 to form the number closest to 7000.

Ans : _____

_____

22.   The table below shows the number of coins that Simon saved over 3 days.

Day	Number of coins saved	
	20-cent coins	50-cent coins
1	4	2
2	10	0
3	3	1

What is the total amount of money Simon saved over the three days?

Ans : $_____

_____

4

23. A machine started printing cards at 8.00 a.m. on Monday, at a rate of 1200 cards per hour. After every four hours of printing, it was switched off to cool for an hour. How many cards are printed if it continues printing to 3 p.m. the same day.

Ans : _____

_____

24. 2 litres of fruit juice was poured equally into 8 mugs. How much juice was there in each mug? Give your answer in millimetres.

Ans : _____

_____

25. Tom answered 50 questions in a quiz. He took 2 minutes for each of the first 15 questions and twice as long for each of the remaining questions. How much time did he spend on the quiz. Give your answer in hours and minutes.

Ans : _____ h _____ min

_____

26. In the figure, not drawn to scale, AB is parallel to DC. AD, BW, BZ and WY are straight lines. ∠ABW = 157°. Find ∠BCD.

A
B
157°
D
C
49° W
87°
X
Y
Z

Ans : _____°

_____

6
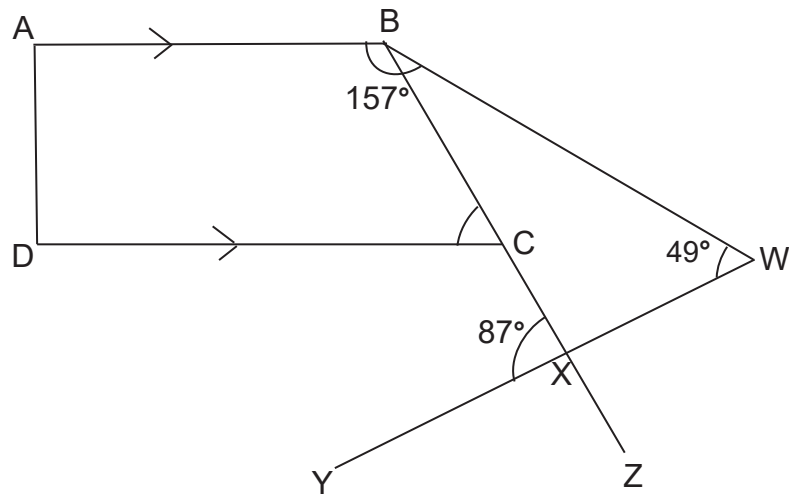
27. In the figure, not drawn to scale, WXYZ is a square and PQRY is a rectangle.
∠ PYZ = 42° . Find ∠ QXY.

Ans : _____°

7
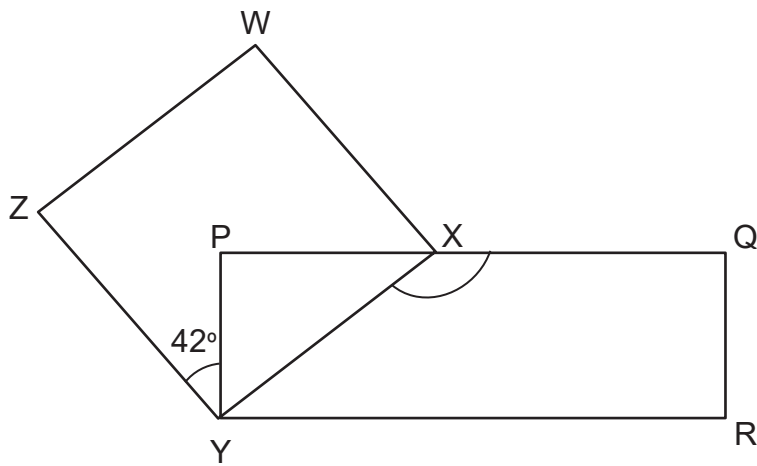
28. The square grid below shows the positions of points A, B, C, D and E.
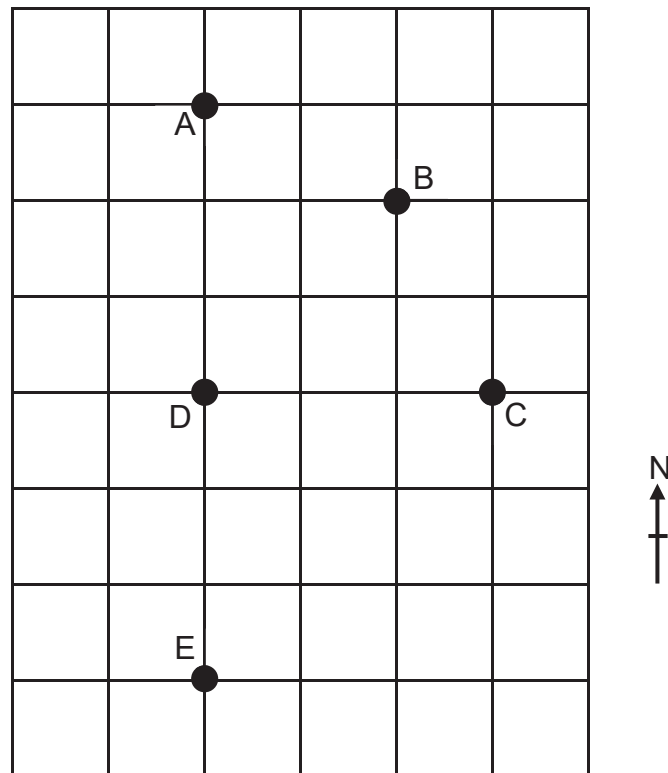
(a) Dan walked directly from point D to point B in a straight line.
In which direction did Dan walk?

(b) Ali stood at A facing point D.
After he turned 45° anticlockwise, which point would he be facing?

Ans : (a)_____

(b)_____

29. ABCD is a square of perimeter 72 cm. It is made up of 4 identical rectangles and a smaller square of side 10 cm.
Find the area of the shaded rectangle.

A ——————— B

10 cm

D ——————— C
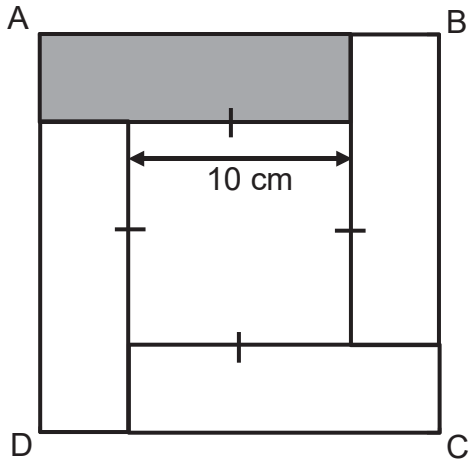
Ans : _____ cm^2

_____

30. The table below shows the number of library books borrowed by some students on a particular day. What percentage of students borrowed at least 3 library books?

No. of books borrowed	0	1	2	3	4
No. of students	5	10	16	10	9

Ans: _____

END OF PAPER

Questions 1 to 5 carry 2 marks each. Show your working clearly in the space provided for each question and write your answers in the spaces provided. For questions which require units, give your answer in the units stated. (10 marks)

1. A player has to play a total of 5 games in a competition. The scores of Ali's first four games are shown.

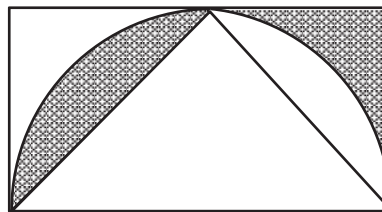| Game	Score
1st	13
2nd	11
3rd	14
4th	15
5th	?

Ali will win a prize if his average score for three of the five games is 15 or more. What is the lowest score Ali must have in the 5th game to win a prize?

Ans : _____
_____

2. The diagram is made up of a rectangle, an isosceles triangle and a semicircle with diameter 14 cm. Find the shaded area.

Ans : _____cm^2
_____

3. Najib had 7.32 kg of candy to sell at a night market. He packed them into as many packets of 100 g as possible and had some candy left. How much more candy would he need to pack another 100 g packet?

Ans : _____g

_____

4. The ratio of the number of men to women at the Community Club in the morning was 5 : 1. After 95 men and 15 women left the Club in the afternoon, the ratio became 4 : 1. How many men were there in the morning?

Ans : _____

_____

5.   The figure below shows a rectangular wooden block. The areas of the surfaces are 21 cm², 24 cm² and 56 cm² as indicated in the figure. What is the greatest number of 1-cm wooden cubes that can be cut from it?

56 cm²

24 cm²

21 cm²
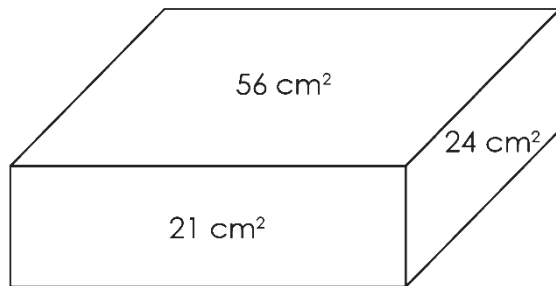
Ans : _____

For questions 6 to 17, show your working clearly in the space provided for each question and write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part-question. **(45 marks)**

6. The graph shows the amount of money collected by 4 families for charity.
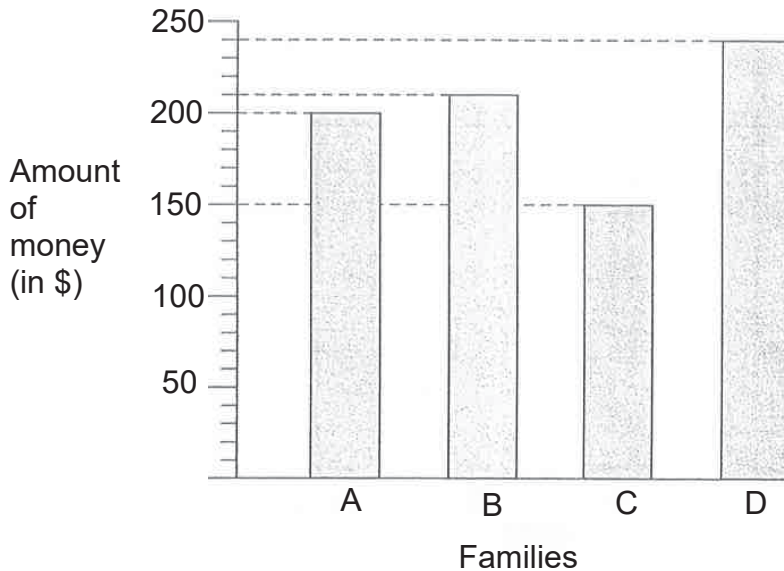
(a) What was the total amount of money collected by the 4 families?

(b) The average amount of money collected by another 2 families, E and F, was $275. What was the average amount of money collected by all 6 families?

Ans : (a)_____ [1]

(b)_____ [2]

_____

7. The diagram below shows a rectangular piece of paper ABCD. The paper is folded as shown below. Find ∠m.
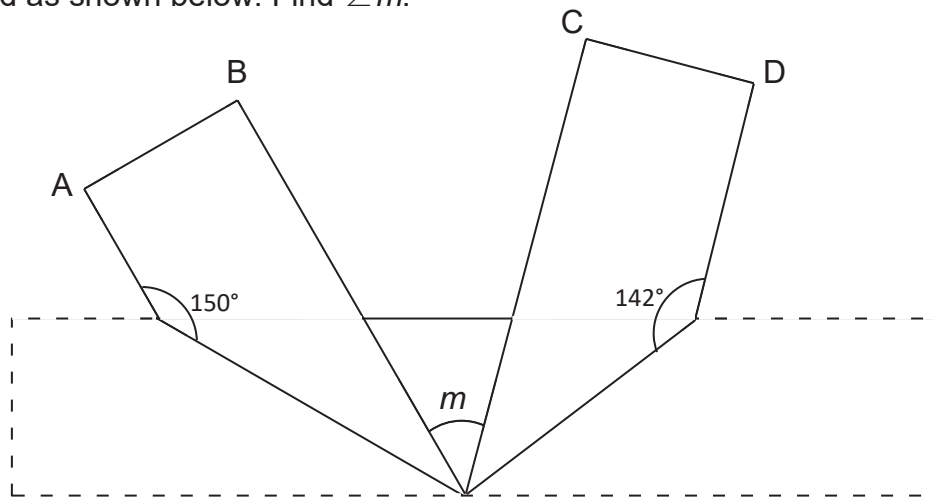
Ans : _____ [3]

_____

8. In the diagram below, PQRU is a trapezium. PQ is parallel to UR.

QRS is an isosceles triangle. QR = SR. ∠ QTU = 147°, ∠ PTS = 113° and

∠ QRS = 34°.

Find:

(a) ∠ PTQ.

(b) ∠ TQS.

Ans : (a) _____ [2]

(b)_____ [2]

_____

6
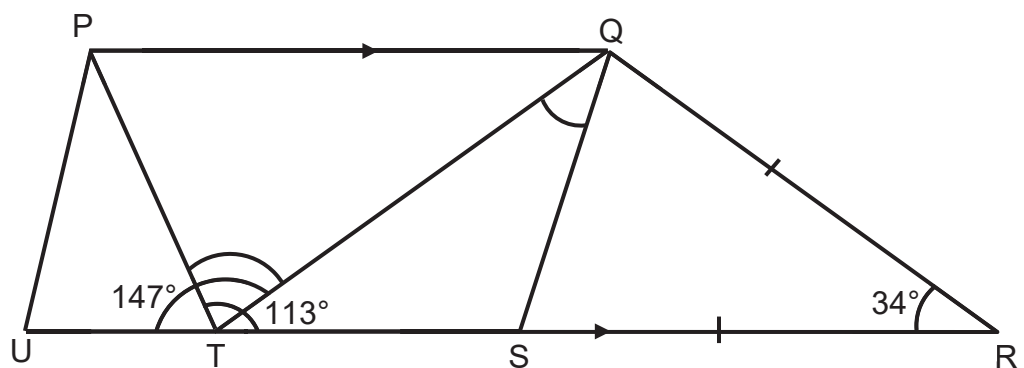
9. The figure is made up of a square and 2 identical quadrants of radius 12 cm. What is the perimeter of the shaded part? (Take π = 3.14)
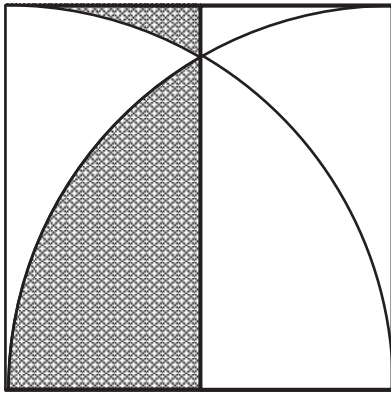
Ans : _____ [3]
_____

10. The figure is made up of a parallelogram, a right-angled triangle and an isosceles triangle. AC is a straight line.
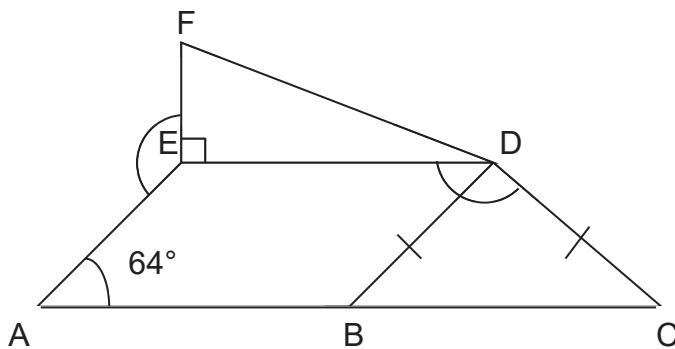
(a) Find ∠AEF.

(b) Find ∠CDE.

Ans : (a) _____ [1]

(b) _____ [2]
_____

11. Lawrence had a piece of wire 17k cm long. He formed a triangle with sides k cm, 3k cm and 30 cm with part of the wire.

(a) Express the length of the remaining wire in terms of k in the simplest form.

(b) Lawrence used the remaining wire to form a square. If k = 6, what is the area of the square formed?

Ans : (a)_____ [1]

(b)_____ [3]

12. Two schools sent their waste for recycling. The table shows the amount of waste they sent in kg.

School	Plastic	Paper	Glass
School A	90	75	56
School B	100	50	84

The schools were paid for their recyclables according to the table below.

Recyclable	Price per kg
Plastic	$0.30
Paper	$0.80
Glass	$1.00

School C collected the same amount of plastic, paper and glass.

Carefully study the information given.

Each of the statements below is either True, False or Not Possible to Tell. For each statement, put a tick (√) to indicate your answer. [3]

Statement	True	False	Not Possible to Tell
School A received more money from recycling than School B			
School B collected 50% less paper waste than School A			
School C received the least amount of money from recycling.			

13. The average mass of each apple in a basket was 34.2 g. When Ali recorded the mass of the apples, he wrongly recorded one as 43 g when it should have been 34 g. As a result, he calculated the average mass as 34.5 g. How many apples were there in the basket?

Ans : _____ [4]

_____

14. At first, Minah had 83 blue and red ribbons. She used 7 blue ribbons and made more red ribbons. The number of red ribbons increased by 60%. At the end, she had a total of 100 ribbons. How many blue ribbons did she have at first?

Ans : _____ [4]

_____

15. A photocopier took 60 minutes while another took 130 minutes to print the same number of copies of a pamphlet. The faster machine printed 7 more copies of the pamphlet per minute than the slower one.

(a) How many copies of the pamphlet does the slower machine print in 1 minute?

(b) What was the total number of copies printed by the two machines?

Ans : (a)_____ [2]

(b)_____ [2]

_____

16. Sam earns $300 more than Bob each month. They each spend $1500 per month and save the rest. When Sam has saved $4 900, Bob only saves $2 800. How much does Bob earn each month?

Ans:_____ [5]

_____

17. Aunt Amy baked 1800 strawberry and chocolate cupcakes in the morning.

$\frac{2}{3}$ of the strawberry cupcakes and $\frac{2}{3}$ of the chocolate cupcakes were sold.

(a) How many cupcakes had she left?

(b) She made another 55 strawberry cupcakes and 95 chocolate cupcakes.

The number of strawberry cupcakes became $\frac{1}{2}$ of the number of chocolate

cupcakes. How many strawberry cupcakes did she bake in the morning?

Ans : (a)_____ [1]

(b) _____ [4]

_____

END OF PAPER

Cedar Primary School
Preliminary Examination

<u>Answer Key</u>

<u>Booklet A</u> (20 marks)

Q.1 to 10 (1 mark each)				Q.11 to 15 (2 marks each)	
1.	(2)	6.	(3)	11.	(1)
2.	(2)	7.	(3)	12.	(1)
3.	(3)	8.	(4)	13.	(1)
4.	(2)	9.	(3)	14.	(4)
5.	(3)	10.	(2)	15.	(2)

<u>Booklet B</u> Q.16 to 20 (1 mark each)	
16.	0.004
17.	50
18.	150
19.	75
20.	95

	Q.21 to 30 (2 marks each)
21.	7000 – 6873 = 127 **M1** <u>6873</u> **A1**
22.	80 cents + \$2 + 60 cents + \$1 + 50 cents = 490 cents **M1** = <u>\$4.90</u> **A1**
23.	6 x 1200 **M1** = <u>7200</u> **A1**
24.	2000 ÷ 8 **M1** = <u>250</u> **A1**
25.	30 + 140 = 170 min **M1** = <u>2h 50min</u> **A1**
26.	180 – 87 =93 93 +49 =142 180 – 142 = 38 157 – 38 = 119 **M1** 180 – 119 = <u>61°</u> **A1**
27.	90 – 42 = 48 90 – 48 = 42 **M1** 180 – 42 =<u>138°</u> **A1**
28.	(a) <u>North-East or NE</u> **A1** (b) <u>C</u> **A1**
29.	72 ÷ 4 = 18 18 – 10 = 8 8 ÷ 2 = 4 4 x 14 **M1** = <u>56</u> **A1**
30.	5 + 10 + 16 + 10 + 9 = 50 $\frac{19}{50} \times 100\%$ **M1** = <u>38%</u> **A1**

	Paper 2 Q.1 to 5 (2 marks each)
1.	14 + 15 = 29 3 x 15 = 45 **M1** 45 - 29 = <u>16</u> **A1**
2.	$\frac{1}{2} \times 7 \times 7 = $ <u>24.5</u> **M1 , A1**
3.	7320 – 7300 = 20 100 - 20 **M1** = <u>80</u> **A1**
4.	95 – 60 = 35 1 unit = 35 – 15 = 20 **M1** 4 units = 80 80 + 60 + 35= <u>175</u> **A1**
5.	7 x 3 x 8 **M1** = <u>168</u> **A1**

<u>Q 6 to 17 (45 marks)</u>

6.   (a)   <u>$800</u>   ~~A1~~

      (b)   275 x 2 = 550
             800 + 550 = 1350
             1350 ÷ 6   **M1**
             = <u>$225</u>   **A1**

_____

7.   180 – 150 = 30   ⎤   **M1**

      180 – 142 = 38   ⎦

      180 – 30 – 30 – 38 – 38   **M1**

      = <u>44°</u>   **A1**

_____

8.   180 – 147 = 33
      (a) 113 - 33   **M1**
          = <u>80°</u>   **A1**

      (b) 180 – 34 = 146
          146 ÷ 2 = 73
          180 – 33 – 34 – 73   **M1**
          = <u>40°</u>   **A1**

_____

9. $\frac{1}{4} \times 2 \times 3.14 \times 12 = 18.84$ **M1**

        18.84 + 12 + 12 = <u>42.84 cm</u>   **M1 , A1**

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10.   (a) 180 – 64 = 116
          360 – 116 – 90 = <u>154</u>°   **A1**

       (b) 180 – 64 -64 = 52   **M1**
          52 + 64 = <u>116</u>°   **A1**

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11.   (a) 17 k – k – 3k – 30 = <u>(13k -30) cm</u> **A1**
       (b) 13 x 6 – 30 = 48   **M1**
         48 ÷ 4 = 12   **M1**
         12 x 12 = <u>144 cm</u>²   **A1**

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12.   A $\longrightarrow$ 90 x 0.3 + 75 x 0.8 + 56 x 1 = 143

       B $\longrightarrow$ 100 x 0.3 + 50 x 0.8 + 84 x 1 = 154

       False   **A1**
       False   **A1**
       Not able to tell   **A1**

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13.   43 – 34 = 9   **M1**
       34 . 5 – 34. 2 = 0.3   **M1**

       9 ÷ 0.3   **M1**
       = <u>30</u>   **A1**

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14.   83 – 7 = 76   or   3u = 17 + 7 = 24   **M1**
             100 – 76 = 24   **M1**   1u = 24 ÷ 3 = 8   **M1**
             60% of red → 24   **M1**   5 x 8 = 40   **M1**
             100 % → $\frac{24}{60} \times 100$ **M1**   83 – 40 = <u>43</u>   **A1**
                 = 40
             83 – 40 = <u>43</u>   **A1**

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15. (a) 60 x 7 = 420
         420 ÷ 70   **M1**
         = <u>6</u>   **A1**
    (b) 6 + 7 = 13
         13 x 60 = 780 **M1**   or   6 x 130 = 780 **M1**
         780 x 2
         = <u>1560</u>   **A1**

___

16. 4900 - 2800 = 2100   **M1**
     2100 ÷ 300 = 7   **M1**
     2800 ÷ 7 = 400   **M1**

     400 + 1500 = $<u>1900</u>   **M1, A1**

___

17.
    (a) 1800 ÷3 = <u>600</u>   **A1**
    (b) 600 + 55 + 95 = 750
         750 ÷ 3 = 250   **M1**
         250 - 55 = 195   **M1**
         3 x 195 = <u>585</u>   **M1 , A1**

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