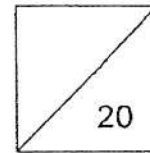## HENRY PARK PRIMARY SCHOOL
PRELIMINARY EXAMINATION 2012
MATHEMATICS

PRIMARY 6

PAPER 1
(BOOKLET B)

Name: _____ (   )

Class: Primary 6 _____

20

Total Time for Booklets A and B: 50 min

Do not turn over this page until you are told to do so.

Follow all instructions carefully.

Answer all questions.

Write your answers in this booklet.

The use of calculator is **NOT** allowed.

Questions 16 to 25 carry 1 mark each. Write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)
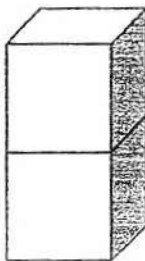
16. Express 75 seconds as a fraction of 2 minutes in its simplest form.

Ans: _____

17. Subtract $2\frac{1}{5}$ from the sum of $3\frac{1}{4}$ and $1\frac{7}{8}$.

Ans: _____

18. The cuboid below is made up of 2 cubes joined together by glue.
The side of each cube is 4 cm. Only one face of each cube is shaded grey as shown in the diagram below. How many of such cuboids are needed to get a total grey surface area of 256cm² ?
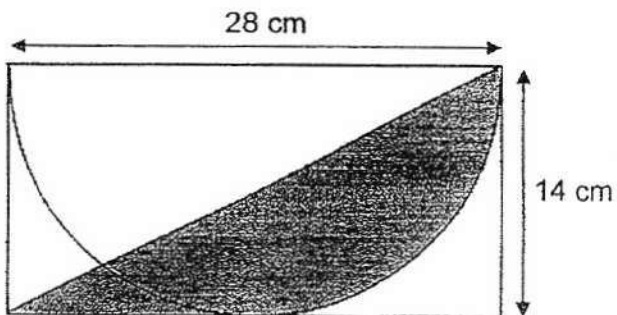

Ans: _____

1

19. The base of a rectangular container measures 40 cm by 15 cm as shown in the diagram below. The container is filled with orange juice to a height of 18 cm. When 1.2 litres of orange juice is added, the container is filled to its brim. What is the capacity of the container?
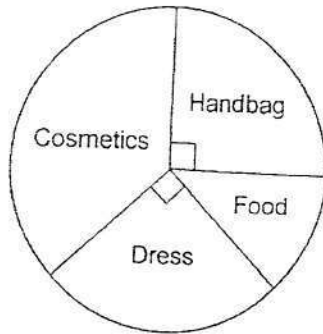

15 cm

40 cm
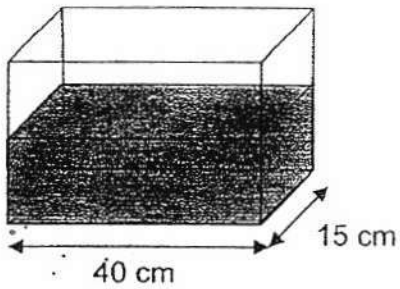
Ans: _____ cm³

20. Find the area of the shaded part. (Take $\pi = \dfrac{22}{7}$)

28 cm

14 cm

Ans: _____ cm²

Study the pie chart below carefully and answer questions 21 and 22.

The pie chart shows Josephine's spending on Sunday. She spent a total of $400 on the four different items.

21. How much money did Josephine spend on the handbag?

Ans: $_____

22. The amount Josephine spent on cosmetics was thrice the amount she spent on food. Find the ratio of the amount she spent on food to the total amount spent on cosmetics and the dress.

Ans: _____

3

23. The figure below is made up of squares. Shade 3 more squares so that the figure has a line of symmetry.
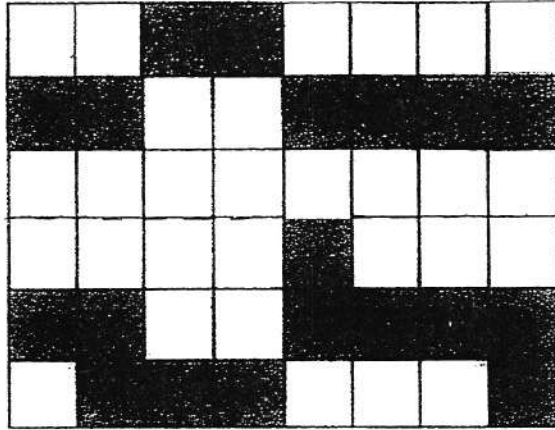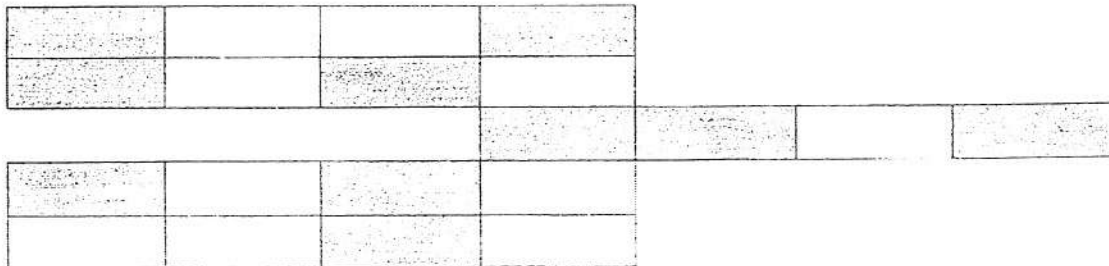
24. The diagram below shows the net of a cube. Which face is directly opposite to K when the net is folded to form the cube?

	K		
M	L	N	
		P	O
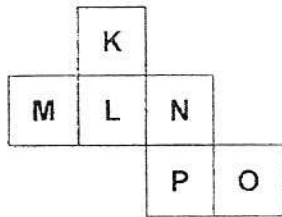
Ans: _____

25. The figure below is made of identical rectangles. How many more rectangles must be shaded so that 80% of all the rectangles are shaded?

Ans: _____

4

Questions 26 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. (10 marks)

26. 0.576×10 has the same value as $5\,760 \div$ ☐

Find the missing value in the box.

Ans: _____

27. The following figure is not drawn to scale. Given that ABCD is a parallelogram and ADE is an isosceles triangle, find $\angle y$.
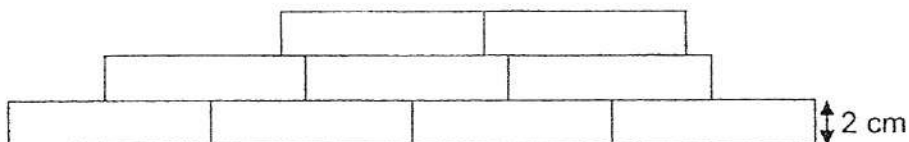
E ____ D ____ C, with A, B, 118°, y as labelled in the figure.

Ans: _____ °

5
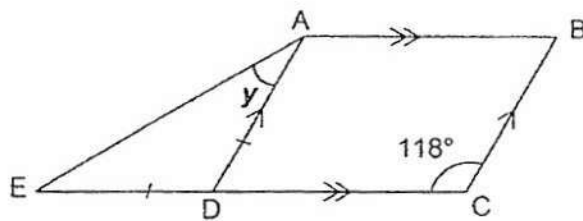
28. Peishan spent $\frac{7}{10}$ of her money on 15 mangoes and 5 pears.

If 1 pear cost $\frac{1}{2}$ as much as a mango, how many pears could Peishan buy

with the rest of her money?

Ans: _____

29. 9 identical rectangles measuring 7 cm by 2 cm are arranged as shown below.
What is the perimeter of the figure?

2 cm

Ans: _____ cm

30. Susie wants to buy a handbag with her savings. If she increases her savings by 10% she will still need $14.00 more to buy the handbag. If she increases her savings by 45% she will have $7.00 in excess. What is the cost of the handbag?

Ans: $_____

End of Paper 1

6

HENRY PARK PRIMARY SCHOOL
PRELIMINARY EXAMINATION 2012
MATHEMATICS

PRIMARY 6

PAPER 1
(BOOKLET A)

Name: _____ (   )

Class: Primary 6 _____

Marks:

Paper 1	Booklet A	/ 20
	Booklet B	/ 20
Paper 2		/ 60
Total		/100

Total Time for Booklets A and B: 50 min

Do not turn over this page until you are told to do so.

Follow all instructions carefully.

Answer all questions.

Shade your answers in the Optical Answer Sheet (OAS) provided.

The use of calculators is **NOT** allowed.

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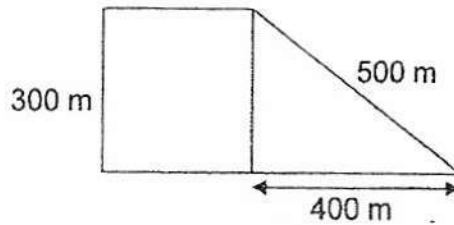Sheet provided.   (20 marks

1.   Find the sum of 74 389 and 17 917.
        The digit in the thousands place is _____.

        (1) 1
        (2) 2
        (3) 3
        (4) 9

2.   The value of $36 - (14 + 10 \div 2) + 5$ is _____.
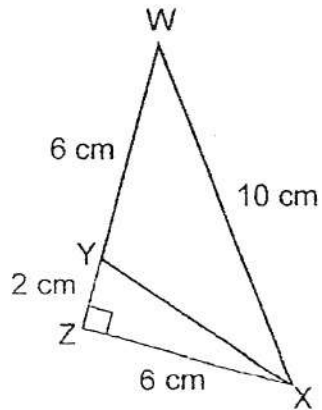
        (1) 21
        (2) 22
        (3) 29
        (4) 32

3.   The figure below shows a field that is made up of a square and a
        triangular plot of land. What is the area of the field?

        (1) 150 000 m²
        (2) 190 000 m²
        (3) 210 000 m²
        (4) 290 000 m²

1

4.

Find the area of triangle WYX shown above.

(1) 18 cm^2
(2) 24 cm^2
(3) 30 cm^2
(4) 36 cm^2

5.   The ages of three girls are 10 years 5 months, 10 years 1 month and 11 years. Find the average age of these three girls.

(1) 10 years 2 months
(2) 10 years 3 months
(3) 10 years 5 months
(4) 10 years 6 months

6.   The table below shows the time taken by six runners to complete a 100-metre race.

Names of competitors	Time taken (seconds)
Alvin	12.90
Bala	13.09
Charles	13.00
Deming	12.09
Erwin	12.80
Farudin	12.92

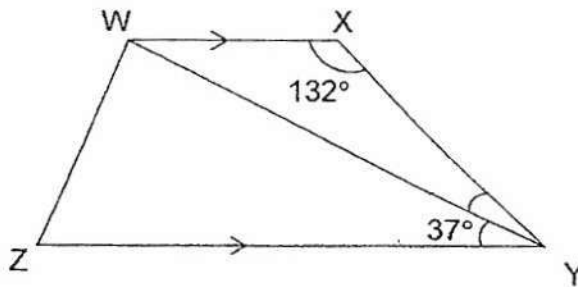Which two runners came in 1st and 3rd in position respectively?

(1) Bala and Charles
(2) Bala and Farudin
(3) Deming and Alvin
(4) Deming and Erwin

7. In the diagram below, AC and BD are straight lines.
∠FEC is half of ∠BEC. ∠DEC is 50°. What is ∠FEC?
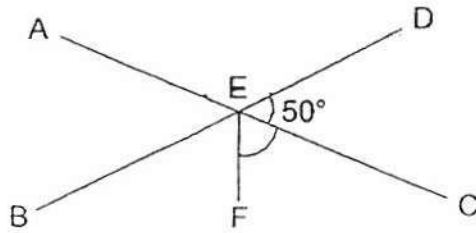
(1) 45°
(2) 50°
(3) 65°
(4) 80°

8. In the figure below, WXYZ is a trapezium.
Given that ∠WXY = 132° and ∠ZYW = 37°, find ∠XYW.

(1) 11°
(2) 24°
(3) 48°
(4) 95°

9. Kathy has 11% more stickers than Rick. What is the ratio of the number of Rick's stickers to the number of Kathy's stickers?

(1) 89 : 100
(2) 100 : 89
(3) 100 : 111
(4) 111 : 100

10. Joan, Kimberly and Linda went for a party. Each of them brought some sweets. Linda brought k sweets. Joan brought $\frac{1}{3}$ as many sweets as Linda. Joan brought 5 sweets less than what Kimberly brought.
What was the total number of sweets the three girls brought?

(1) $1\frac{2}{3}k - 5$

(2) $1\frac{2}{3}k + 5$

(3) $7k - 5$

(4) $7k + 5$

11. $0.038 = 0.8 + \boxed{} - 0.882$
What is the missing value in the box?

(1) $\dfrac{12}{10}$

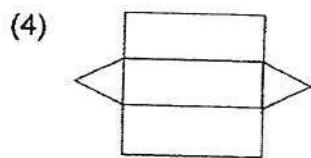(2) $\dfrac{12}{100}$
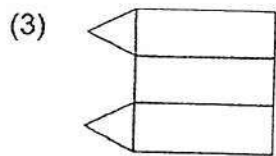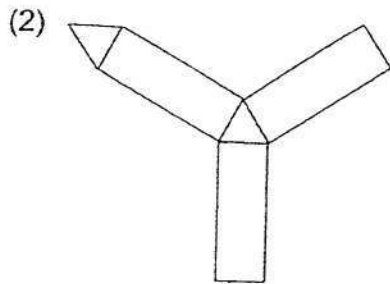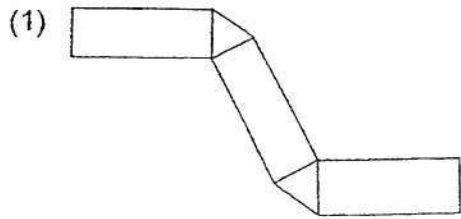
(3) $\dfrac{12}{1000}$

(4) $\dfrac{120}{10}$

12. The average mark scored by 4 girls was 79. Jenny scored 6 marks more than Fang Lin. How many marks did Jenny score?

Names	Scores
Mei Mei	76
Tanya	80
Jenny	?
Fang Lin	?

(1) 77
(2) 80
(3) 81
(4) 83

13. Which of the following does **not** show the net of the triangular prism?

(1)

(2)

(3)

(4)

14. $\dfrac{3}{4}$ of a square is equal to $\dfrac{2}{5}$ of a rectangle. Express the area of the rectangle as a fraction of the area of the square.

   (1) $\dfrac{8}{15}$

   (2) $\dfrac{15}{8}$

   (3) $\dfrac{23}{20}$

   (4) $\dfrac{40}{23}$

15.   The figure below is made up of two similar quadrants, four semicircles and a rectangle. The radius of the quadrant is 14 cm.
   What is the area of the shaded part? Leave your answer in terms of π.

16 cm

14 cm   14 cm
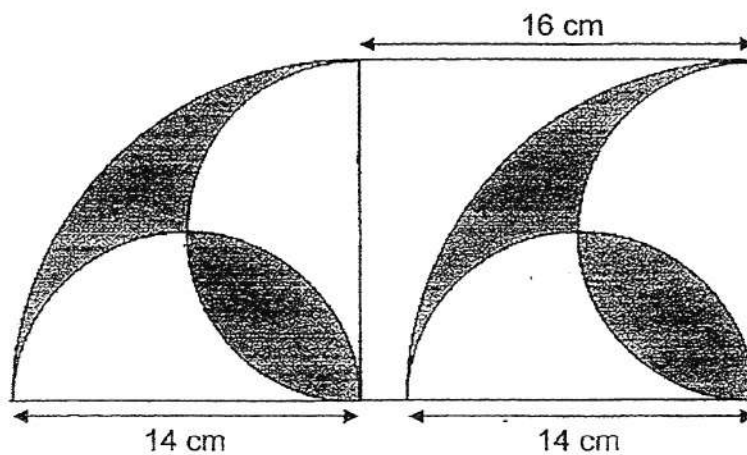
   (1) $(49\pi - 98)$ cm^2

   (2) 98π cm^2

   (3) $(98\pi - 49)$ cm^2

   (4) $(98\pi - 196)$ cm^2
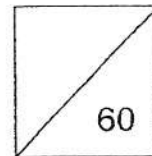
HENRY PARK PRIMARY SCHOOL
PRELIMINARY EXAMINATION 2012
MATHEMATICS

PRIMARY 6

PAPER 2

Name: _____ (   )

Class: Primary 6 _____

60

Time for Paper 2: 1 h 40 min

Do not turn over this page until you are told to do so.

Follow all instructions carefully.

Answer all questions.

Write your answers in this booklet.

The use of an approved calculator is expected, where appropriate.

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 space provided. For questions which require units, give your answers in the units stated. (10 marks)

1. The square below, not drawn to scale, is made up of 3 rectangles.
   The ratio of the areas of A, B and C is 3 : 1 : 2 respectively.
   The area of the square is 144 cm². What is the breadth of B?
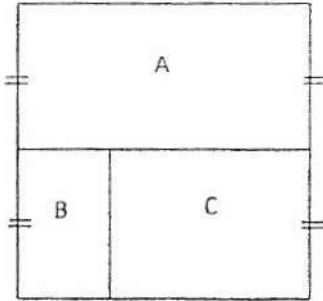
Ans: _____ cm

2. The bar graph below shows the number of marks some pupils scored in a Math quiz.
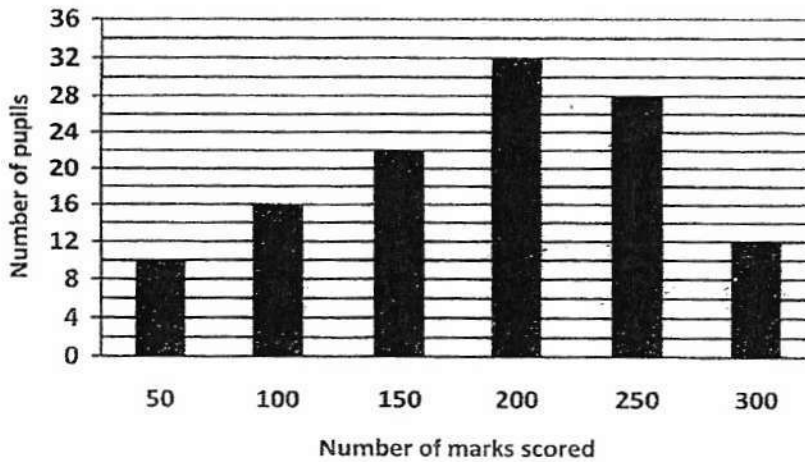
Given that the passing mark was 150, how many pupils passed the Math quiz?

Ans: _____

1

3. Longans are sold at $7 per kg. How much must I pay for 2 kg 480 g of longans? (Correct your answer to the nearest 10 cents.)

Ans: $._____

4. The beaker below shows the amount of water John had at first. He poured the water from the beaker into an empty container to fill the container to the brim. What is the base area of the container given that the container had a height of 12.5 cm?
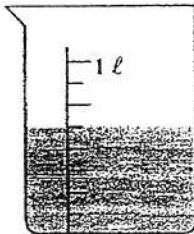
Ans: _____ cm²

5. After a quiz, George and his team members calculated the average of their scores. They noted that if George could get 13 points more, they would have an average of 88 points. However if George scored 8 points less, their average score would become 85. How many members are there in George's team?
altogether in the

Ans: _____

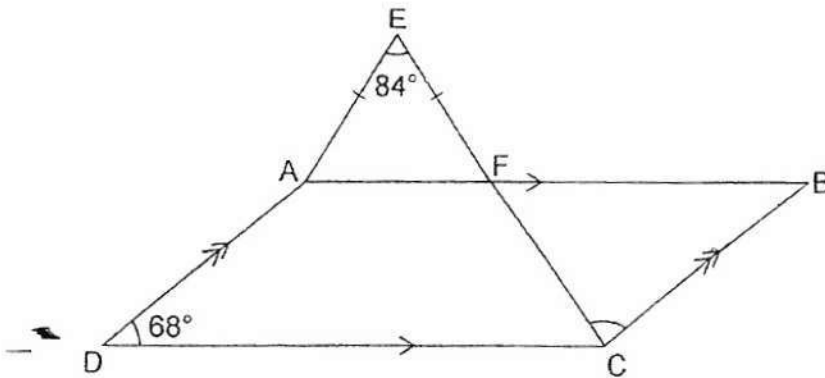For questions 6 to 18, show your working clearly in the space provided for each question and write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part-question.   (50 marks)

6.   Study the figure below and find ∠FCB.

                                                    Ans: _____ [3]

7.   Jensen bought some pens and exercise books for $10.70. He bought 5 fewer pens than exercise books. Each pen cost $2.50 and each exercise book cost $0.40. How many pens did Jensen buy?

                                                    Ans: _____ [3]

8. Zaini had some stamps. He gave his brother $\frac{2}{5}$ of his stamps and an additional 28 stamps. Then he gave his sister $\frac{1}{4}$ of the remaining stamps and found that he had 114 stamps left. How many stamps did Zaini have at first?

Ans: _____[3]

9. Mr Tan is (8k +10) years old now. He has two children, Rosalynn and David.
Mr Tan is twice as old as Rosalynn now. David is 2k years younger than Rosalynn.
How old will Mr. Tan be when David turns 18 years old?

Ans: _____[3]

10. Benjamin had some wire. He bent the wire to form the figure shown below. It is made up 6 identical big circles and 4 identical small circles. The diameter of the big circle is twice the diameter of the small circle. The diameters of all the circles form two straight lines such that AB = CD = 84cm. What was the length of wire that he used to form the figure? (Take $\pi = \dfrac{22}{7}$)
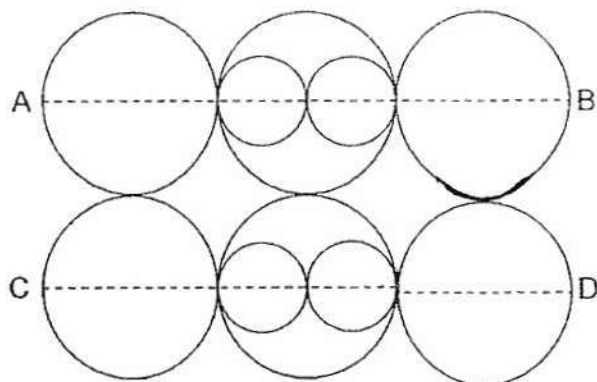
Ans: _____[3]

11. An empty rectangular tank has a capacity of 50.9 litres. Water flowed from two taps, Tap A and Tap B, into the tank at a rate of 2.5 litres per minute and 3.7 litres per minute respectively. Tap B was turned on after Tap A had been turned on for 3 minutes. Both taps were turned off at the same time once the tank was completely filled. How much water flowed from Tap B into the tank?

Ans: _____[4]

12. The figure below shows two triangles, BCD and BCF. ABC is a straight line. Find ∠k.
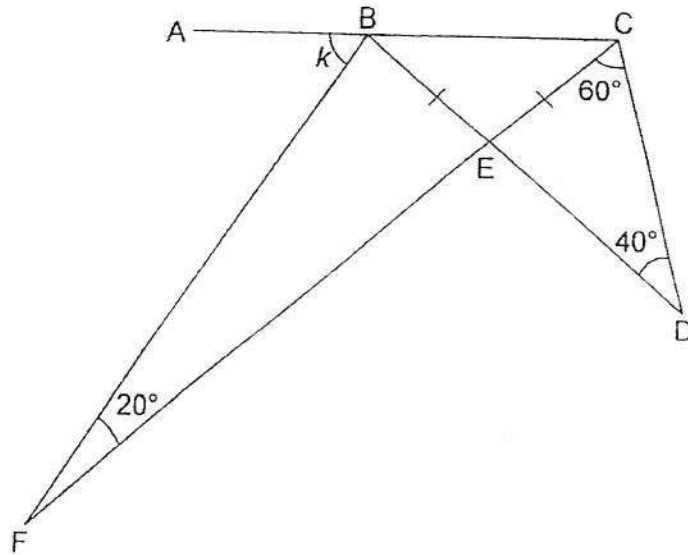
Ans: _____ [4]

13. At 7.30 a.m., a van started from Town A and travelled towards Town B at a speed of 60 km/h. The van did not change its speed throughout the entire journey. At 10.00 a.m., a motorcycle started from Town B and travelled towards Town A. The speed of the motorcycle remained the same until it passed the van at 11.30 a.m. At this point, the van had travelled $\frac{4}{7}$ of the journey. After passing the van, the motorcycle reduced its speed by 20 km/h and travelled at the new speed for the remaining journey. How long did the motorcycle take to travel from Town B to Town A?

Ans: _____ [4]

8

14. Mrs Muthu had some apples and oranges in 2 baskets. In basket A, the number of apples to oranges was in the ratio 5 : 9. In basket B, there were thrice as many apples as oranges. After Mrs. Muthu transferred $\frac{1}{3}$ of the oranges from basket A to basket B, the number of fruits left in basket A was 187 and the ratio of the number of apples to oranges in basket B became 7 : 8. How many fruits are there in Box B Basket in the end?

Ans: _____[4]

9

15. Mrs Lee read 40% of the pages of a book on Monday. On Tuesday, she read 20% of the remaining pages of the book. She then had 180 pages left unread. How many pages of the book did she have to read ?

Ans:_____[4]

16. Leslie packed a total of 1016 oranges and papayas into 57 boxes. Oranges and papayas are packed in separate boxes. Each box can hold either 36 oranges or 8 papayas only.

    a) How many papayas were there in all?

    b) Given that each box of oranges was sold for $16.80, how much can Leslie collect from the sale of all the boxes of oranges?

Ans: (a) _____ [3]

(b) _____ [2]

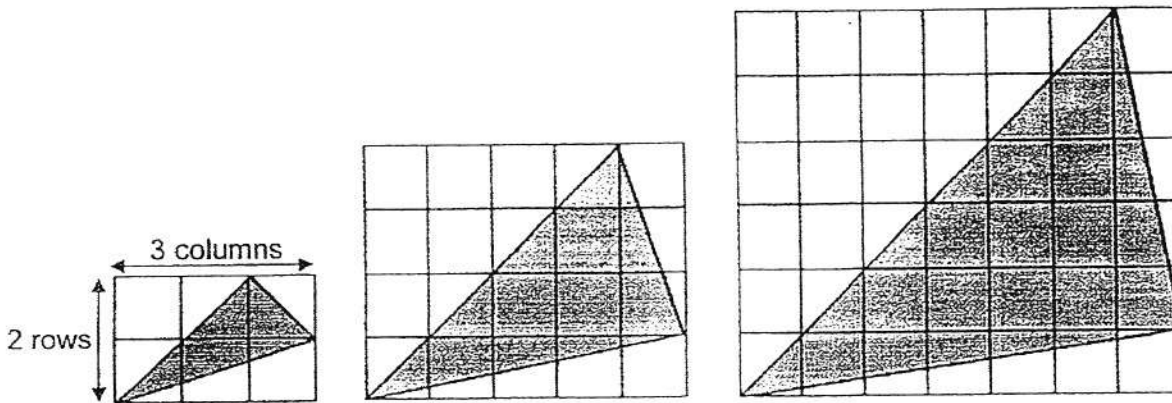17. Study the pattern below and answer the questions, showing your workings clearly whenever possible.

3 columns
2 rows

Fig. 1   Fig. 2   Fig. 3

| Figure no.	No. of rows of square grids	No. of columns of square grids	Area of shaded triangle (square units)
1	2	3	2
2	4	5	8
3	6	7	18
4	8	9	?

a) What is the area of shaded triangle in Figure 4?

b) What is the number of columns of square grids in Figure 20?

c) In which figure would the area of shaded triangle be 2 312 square units?

Ans: (a) _____ [1]

(b) _____ [2]

(c) Figure _____ [2]

12

18. A special water tank is made up of 3 containers A, B and C as shown below.
The volume of container C is 18 litres when filled to its brim. The volume of each
container is $2\frac{1}{2}$ times lesser ~~greater~~ in volume than the one above. Mrs Lim filled the water
tank with 26.7 litres of water. What is the height of the water level from the base of
the water tank?

(1 litre = 1000 cm³)
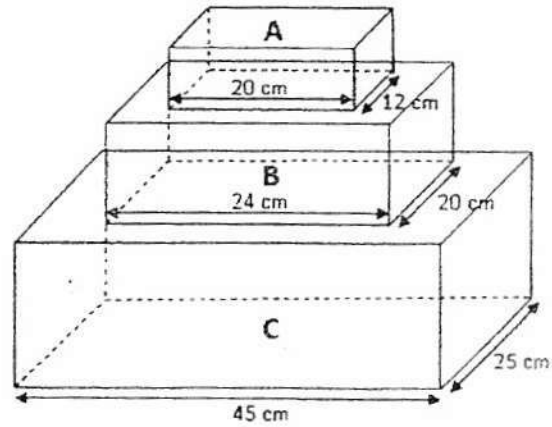
Ans: _____ [5]

END OF PAPER

Setters: Mrs. Rebecca Vagenende and Mrs. Josephine Lai

13

ANSWER SHEET

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
2	2	1	1	4	3	3	1	3	2	2	4	3	2	4

16) 5/8   17) 2 37/40   18) 8 cuboids   19) 12000cm3   20) 154cm2
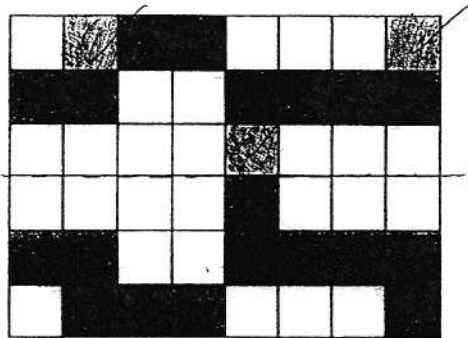
21) $100   22) 1:5   23)

24) P   25) 6 rectangles

26) 1000   27) 31°

28) 15 pears   29) 68cm

30) $80

Paper 2

1) $\sqrt{144} = 12$
   $12 \div 3 = 4cm$

2) $22 + 32 + 28 = 12 = 94$ pupils

3) $7 \times 2 = 14$
   $14 + 3.36$
   $= 17.36$
   $= \$17.40$

4) $625 \div 12.5 = 50cm2$

5)$(88 - 85)u = 8 + 13$
   $3u = 21$
   $1u = 21/3 = 7$ members

6)$\angle X = (180° - 84°) \div 2 = 48°$
   $\angle FCB = 180° - 68° - 48° = 64°$

7)3 pens

8)$114/3 \times 4 = 152$
   $152 + 28/3 = 60$
    $60 \times 5 = 300$ stamps

9)$R = 8k + 10/2 = 8k/2 + 10/2 = (4k + 5)$
  $D = 4k + 5 - 2k = 4k - 2k + 5 = (2k + 5)$
  Diff in Mr Tan and David $= 8k + 10 - (2k+5)$
  $= 8k + 10 - 2k - 5$
  $= (6k+5)$
  $(6k+5) + 18 = (6k+23)$yrs old

10)$84 \div 3 = 28$
   $28 - 2 = 14$
   $22/7 \times 28 = 88$
   $88 \times 6 = 528$
   $22/7 \times 14 = 44$
   $44 \times 4 = 176$
   $528 + 176 = 704$cm

11)$2.5L \times 3 = 7.5L$
    $50.9L - 7.5L = 43.4L$
    $2.5L + 3.7L = 6.2L$
    $43.4L \div 6.2L = 7$
    $3.7 L \times 7 = 25.9L$

12)$\angle a = 180 - 60 - 40 = 80$
   $\angle x = (360 - 80 - 80) \div 2 = 100$
   $\angle H = 80 \div 2 = 40$
   $\angle C = 180 - 80 - 20 = 80$
   $\angle K = 180 - 80 - 40 = 60°$

13) 3/7 journey = 240/4 x 3 = 180
    10 00 to 11 30 = 1½h
    Motorcycle speed at first
    = 180 ÷ 1½ = 120
    Reduced speed of motorcycle
    = 120 − 20 = 100
    Time taken after 11 30 to reach A
    = 240/100 = 2$\frac{2}{5}$
    2$\frac{2}{5}$ + 1½ = 3$\frac{9}{10}$hrs

14) 9 ÷ 3 = 3
    3 x 2 = 6
    11u = 187
    1u = 187/11 = 17
    24u − 7u = 17u
    3u = 17 x 3 = 51
    51 ÷ 17 = 3
    21u + 24u = 45u
    45u = 3 x 45 = 135fruits

15) 20/100 x 60 = 120/10 = 12
    60/12 = 5
    5u − 1u = 4u
    180 ÷ 4 = 45
    45 x 5 = 225
    225/60 x 100 = 375 pages

16) a) 57 x 8 = 456
       1016 − 456 = 560
       36 − 8 = 28
       560/28 = 20
       57 − 20 = 37
       37 x 8 = 296
    b) 57 − 37 = 20
       20 x 16.80 = $336

17) a) ½x 8 x 9 = 36
       36 − 4 = 32
    b) 41
    c) 34

18) 18000 ÷ 2.5 = 7200
    26700 − 7200 − 18000 = 1500
    18000/45x25 = 16
    7200/24x20 = 15
    1500/20x12 = 6.25
    16 + 15 + 6.25 = 37.25cm