2016 SEMESTRAL EXAMINATION 1
MATHEMATICS
PRIMARY 6

PAPER 1
(BOOKLET A)

Total Time for Booklets A and B: 50 min

You are **not** allowed to use a calculator.

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 and shade your answer (1, 2, 3 or 4) on the Optical Answer Sheet.

(20 marks)

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1 Which digit in 85.96 is in the tenths place?

(1) 5

(2) 6

(3) 8

(4) 9 ( )

2 Arrange the following from the largest to the smallest:

1.205,	$\frac{5}{4}$,	1.2

(1) $\frac{5}{4}$, 1.205, 1.2

(2) $\frac{5}{4}$, 1.2, 1.205

(3) 1.205, 1.2, $\frac{5}{4}$

(4) 1.2, $\frac{5}{4}$, 1.205 ( )

3 Which one of the following is the most likely length of the whiteboard on the wall in your classroom?

(1) 3000 cm

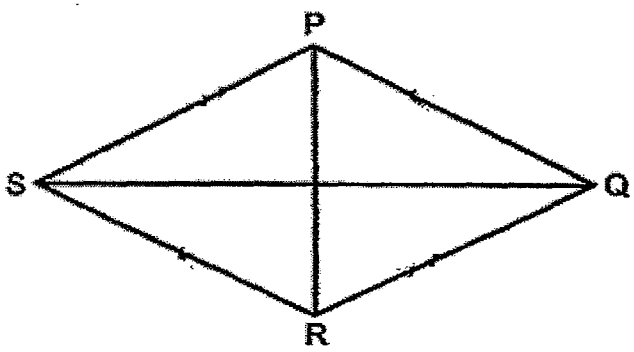
(2) 300 cm

(3) 30 cm

(4) 3 cm ( )

(Go on to the next page)

4 In the figure below, PQRS is a rhombus. Which two lines are parallel to each other?



(1) PQ and PR

(2) PR and QS

(3) QS and RS

(4) RS and QP ( )

5 Megan has some blue, red and yellow beads. $\frac{1}{5}$ of the beads are blue.
The ratio of the number of blue beads to the number of red beads is 2 : 3.
What fraction of Megan's beads is red?

(1) $\frac{1}{2}$

(2) $\frac{1}{5}$

(3) $\frac{3}{5}$

(4) $\frac{3}{10}$ ( )

(Go on to the next page)

6 Alex is t years old. Bob is 2 times as old as Alex. Calvin is 3 years younger than Bob. How old will Calvin be in 8 years' time?

(1) $(2t - 5)$ years

(2) $(2t + 5)$ years

(3) $(2t - 11)$ years

(4) $(2t + 11)$ years ( )

7 The ratio of the length of a rectangle to its breadth is 3 : 2. The perimeter of the rectangle is 40 cm. What is the length of the rectangle?

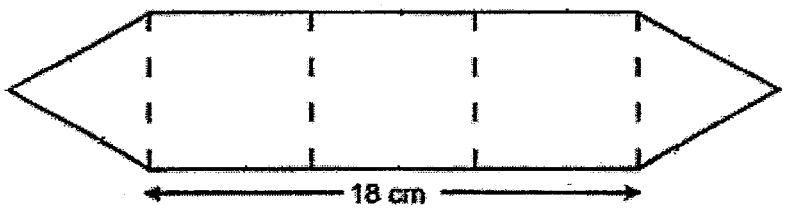
(1) 8 cm

(2) 12 cm

(3) 16 cm

(4) 24 cm ( )

8 The figure below is made up of 2 identical equilateral triangles and 3 identical squares. Find the perimeter of the figure.



(1) 30 cm

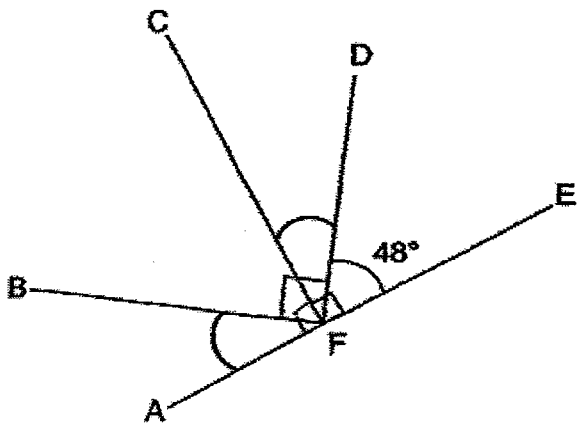
(2) 54 cm

(3) 60 cm

(4) 84 cm ( )

(Go on to the next page)

9 ∠BFD and ∠CFE are right angles and AFE is a straight line.
Find the sum of ∠CFD and ∠AFB.



(1) 84°

(2) 90°

(3) 96°

(4) 104° ( )

10 The sum of four numbers is 1020. One of the numbers is 150. What is the average of the other three numbers?

(1) 105

(2) 255

(3) 290

(4) 390 ( )

11 At first, Jamal had $192 and Ken had $84. Ken gave some of his money to Jamal. In the end, Jamal had three times as much money as Ken. How much money did Ken have in the end?

(1) $15

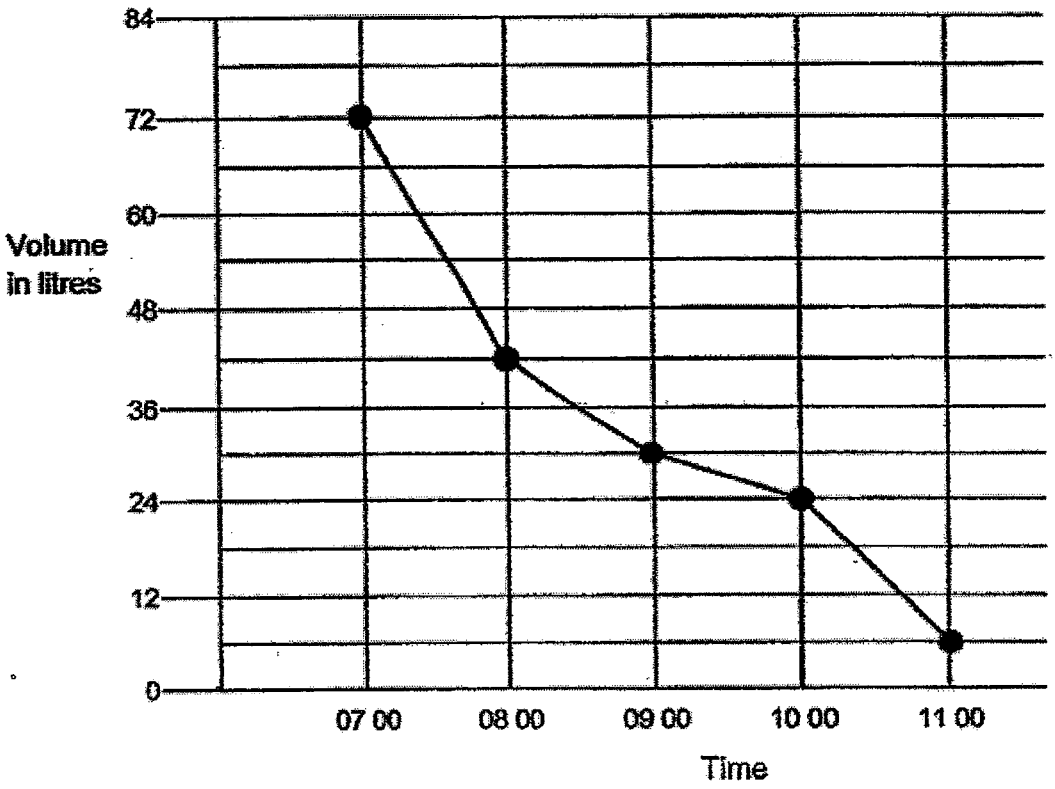
(2) $20

(3) $54

(4) $69 ( )

(Go on to the next page)

12 A tank was filled with some water at 07 00. Water flowed out of the tank from 07 00 to 11 00. The line graph shows the amount of water in the tank from 07 00 to 11 00.



What was the average decrease in the volume of water from 07 00 to 11 00?

(1) 13.2 litres per hour

(2) 14.4 litres per hour

(3) 16.5 litres per hour

(4) 18 litres per hour ( )

(Go on to the next page)

13 The table below shows the number of hours a group of students spent playing computer games in a particular week.

Number of hours	Number of students
0	3
1	13
2	16
3	9
4	1

What was the total number of hours these students spent playing computer games in that particular week?

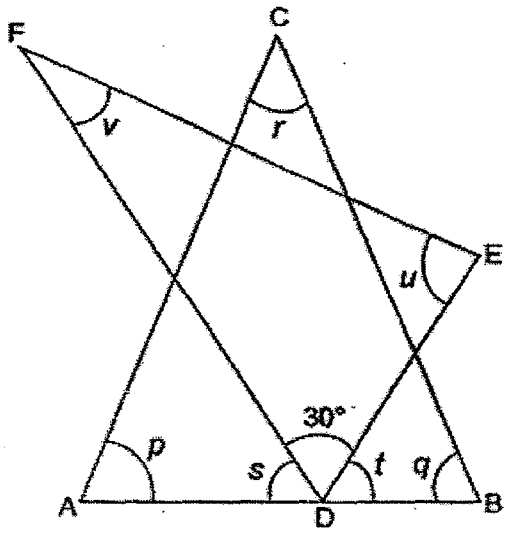
(1) 10

(2) 42

(3) 76

(4) 79 ( )

14 In the figure below, ABC and DEF are two overlapping triangles and ADB is a straight line. What is the value of $\angle p + \angle q + \angle r + \angle s + \angle t + \angle u + \angle v$?



(1) 330°

(2) 480°

(3) 510°

(4) 540° ( )

(Go on to the next page)

15 A printer takes 50 minutes to print a total of 1200 identical black-and-white posters and 500 identical coloured posters. The same printer takes one hour to print 2400 such black-and-white posters. How many such coloured posters can the same printer print in one hour?

(1) 2040

(2) 1500

(3) 1000

(4) 800 ( )

(Go on to Booklet B)

2016 SEMESTRAL EXAMINATION 1
MATHEMATICS
PRIMARY 6

PAPER 1
(BOOKLET B)

Total Time for Booklets A and B: 50 min

You are **not** allowed to use a calculator.

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)

Do not write in this space

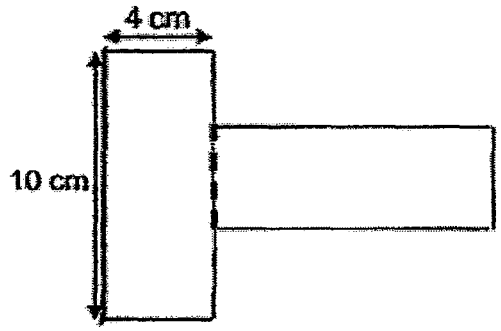
16 Express 8.02 as a mixed number in its simplest form.

Ans: _____

17 Use the digits 9, 5, 4 and 2 to form a 4-digit number that is closest to 5000. Each digit can only be used once.

Ans: _____

18 The figure below is made up of two identical rectangles. Each rectangle measures 10 cm by 4 cm. Find the perimeter of the figure.

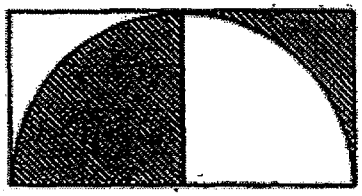


Ans: _____ cm

(Go on to the next page)

19 The figure below is made up of 2 identical squares of side 7 cm. A semi-circle is drawn inside the figure. Find the area of the shaded part.

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



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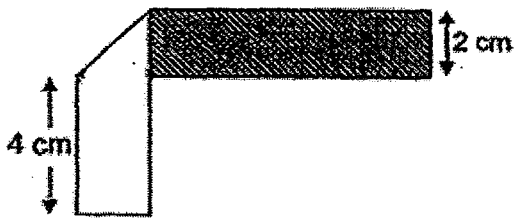
Ans: _____ cm^2

20 A rectangular piece of paper measuring 14 cm by 2 cm is folded into the shape as shown below. What is the area of the shaded part?



Ans: _____ cm^2

(Go on to the next page)

21 The following bar graph shows the favourite fruits voted by some students. Each student could only vote once.

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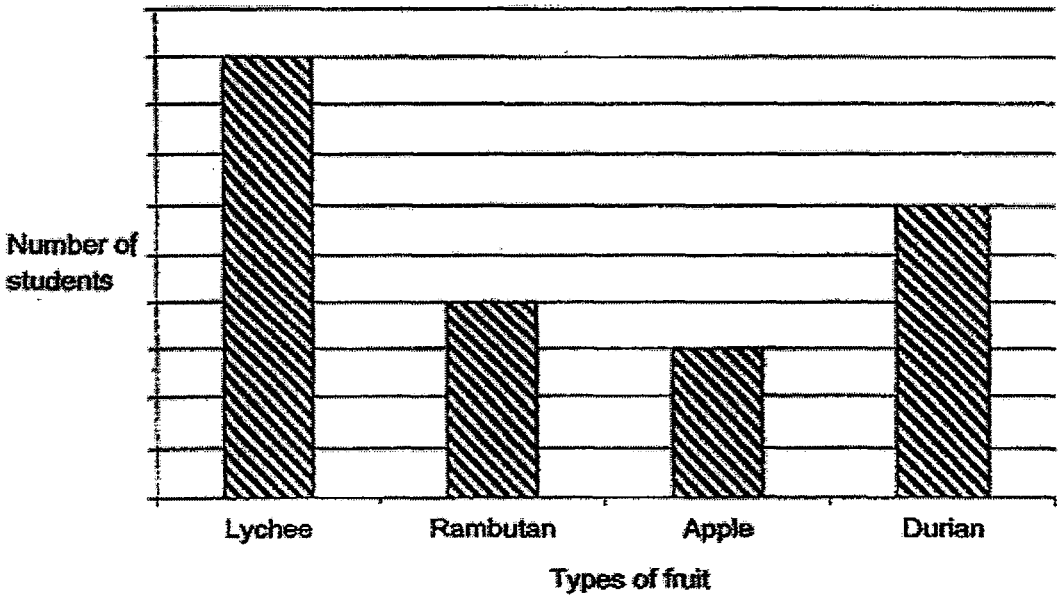


Given that 6 students voted for "Apple" as their favourite fruit, find the total number of students.

Ans: _____

22 The table below shows the time taken by 5 different runners in a race.

Runner	Time taken in seconds
Ali	14.4
Ben	14.9
Charles	13.8
Dinesh	13.7
Eric	14.6

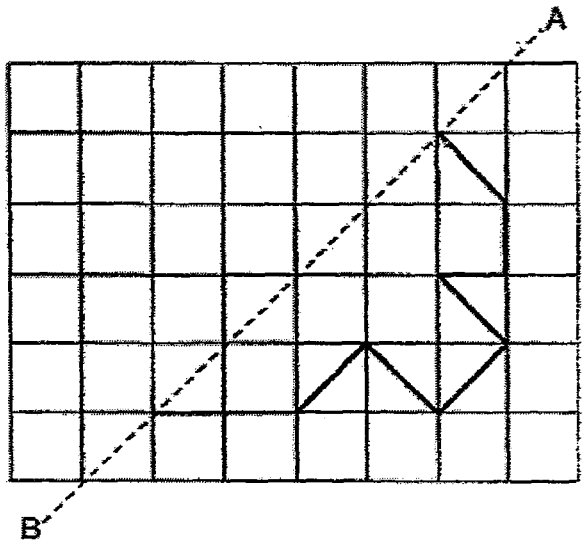
What was the average time taken by the two slowest runners?

Ans: _____ seconds

(Go on to the next page)

23 Complete the figure below so that line AB is the line of symmetry.

Do not write in this space



24 A car travelled 60 km from 16 00 to 16 40. What is the average speed at which the car travelled?

Ans: _____ km/h

25 The ratio of the cost of one shirt to the total cost of one shirt and 2 similar blouses is 3 : 7. Given that each blouse costs $30, find the cost of one shirt.

Ans: $_____

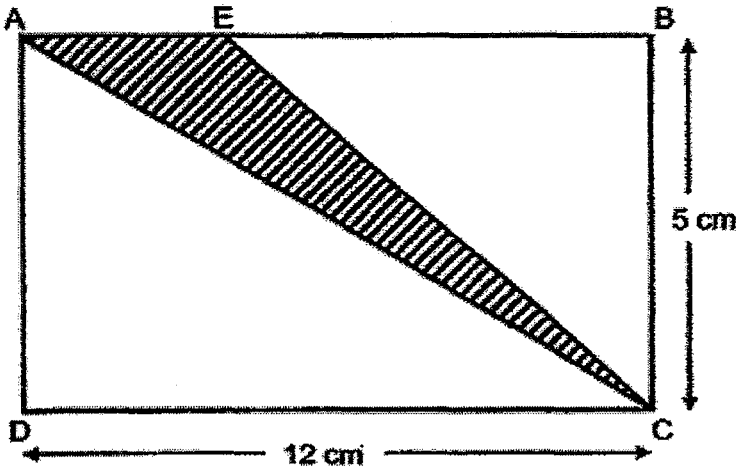
(Go on to the next page)

Questions 26 to 30 carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated.

(10 marks)

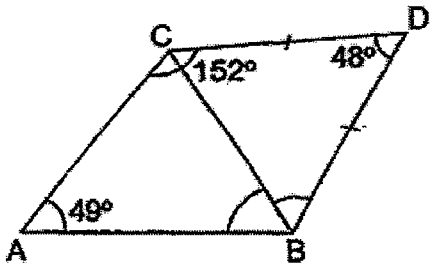
Do not write in this space

26 The figure below is not drawn to scale. ABCD is a rectangle. EB is $\frac{2}{3}$ the length of AB. Find the area of the shaded region.



Ans: _____ cm^2

27 In the figure, CBD is an isosceles triangle and ∠ACD is 152°. Find ∠CBA.



Ans: _____ °

(Go on to the next page)

Do not write in this space

28

What is the least amount of money needed to buy 30 such cupcakes?

Ans: $_____

29 There were some children in a sports hall. $\frac{2}{5}$ of them are girls. After $\frac{1}{4}$ of the girls had left, there were 36 more boys than girls remaining in the sports hall. How many children were there in the sports hall at first?

Ans: _____

30 The usual price of a handbag is $250. Michelle bought the bag and was given a 20% discount. She had to pay a 7% GST on the discounted price. How much did she pay for the handbag in the end?

Ans: $_____

End of Paper 1

2016 SEMESTRAL EXAMINATION 1
MATHEMATICS
PRIMARY 6

PAPER 2

Time for Paper 2: 1 h 40 min

You are allowed to use a calculator.

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

(10 marks)

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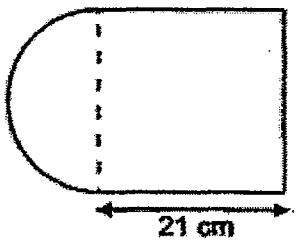
1 The figure below is formed by a square and a semicircle.
Find the perimeter of the figure.
(Take $\pi = \frac{22}{7}$)



Ans: _____ cm

2 Ann, Beth and Cindy shared some cookies in the ratio 2 : 3 : 7 respectively. Each of them received an average of 324 cookies. How many more cookies did Cindy receive than Ann?

Ans: _____

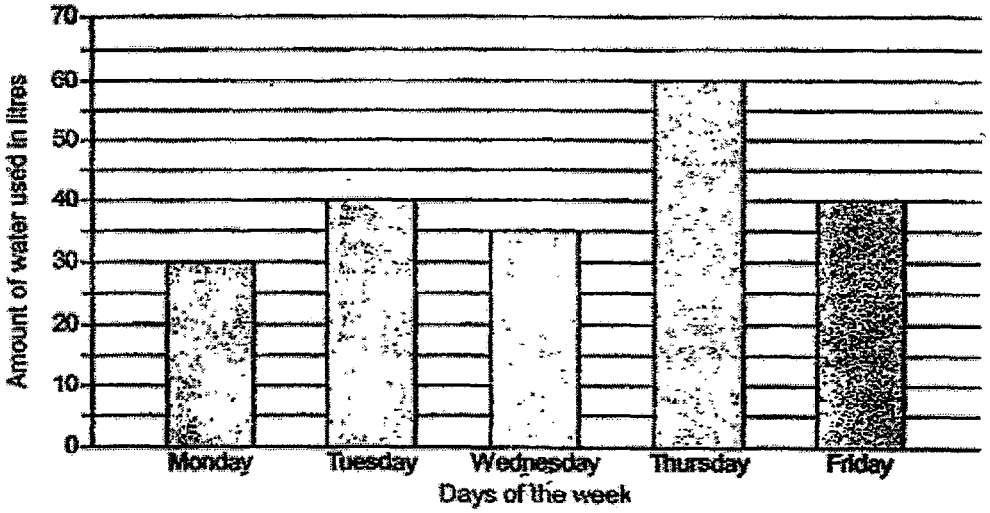
(Go on to the next page)

3 Jack has less than 50 sweets. If he packs the sweets in bags of five, he will have 4 sweets left. If he packs them in bags of seven, he will have 5 sweets left. How many sweets does Jack have?

Do not write in this space

Ans: _____

4 The table below shows the amount of water Jenny used during her shower from Monday to Friday last week.



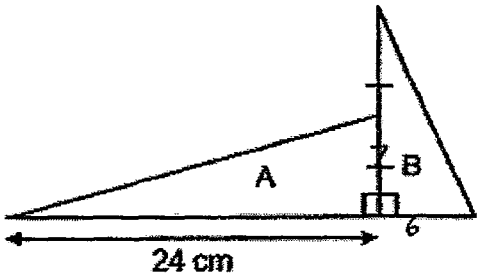
What was the average amount of water used on each day from Monday to Friday?

Ans: _____ litres

(Go on to the next page)

5 In the figure below, A and B are right-angled triangles.
The base of triangle A is 24 cm. The base of triangle A is 4 times the base of triangle B. The height of triangle B is twice the height of triangle A.
Given that the area of triangle A is 84 cm^2, what is the area of triangle B?

Do not write in this space



Ans: _____ cm^2

(Go on to the next page)

For questions **6** to **18**, show your working clearly 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)

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6 Salmah paid $21.10 for 2 bowls, 3 plates and 4 cups.
Each bowl cost 3 times as much as each cup. Each plate cost $1.20 less than each bowl. What was the cost of one plate?

Ans: _____ [3]

(Go on to the next page)

7 The table below shows the prices of pencils and notebooks sold at a bookshop.

Do not write in this space.

Item	Price per item
Pencil	p cents
Notebook	$(3p - 5)$ cents

(a) Siti bought 4 pencils and 1 notebook. Express the amount of money that she spent at the bookshop in terms of p in its simplest form.

(b) Ming Wen paid \$7.50 for 8 pencils and some notebooks.
If $p = 30$, how many notebooks did he buy?

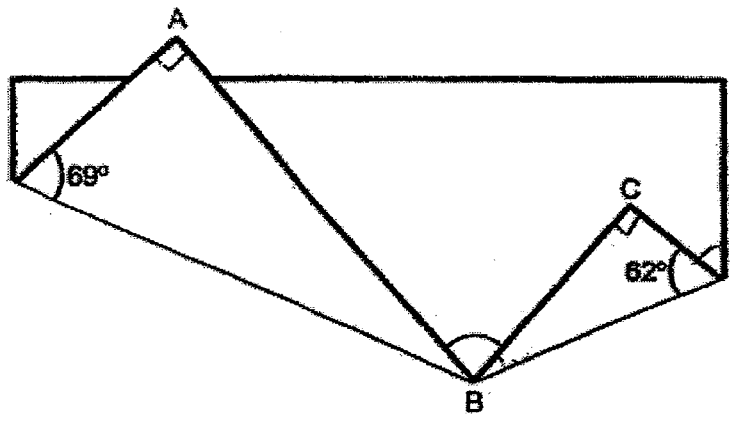
Ans: (a) _____ [1]

(b) _____ [2]

(Go on to the next page)

8 A rectangular piece of paper was folded at two of its corners, A and C, as shown below. Find ∠ABC.

Do not writ in this spac

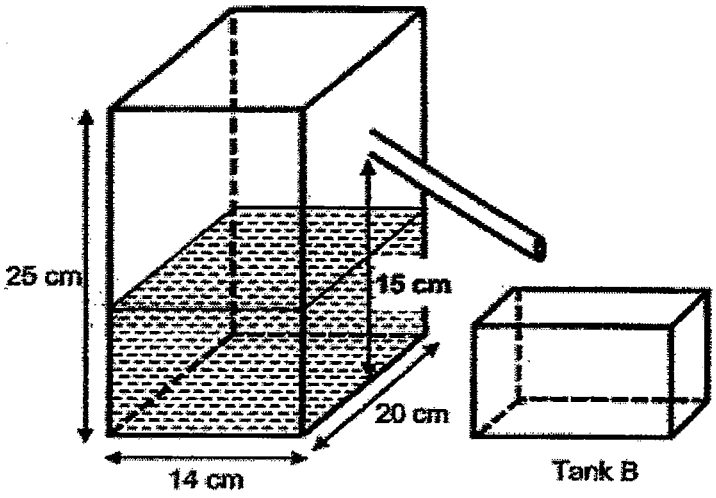


Ans: _____ [3]

(Go on to the next page)

9 Tina had two rectangular tanks as shown below. Tank A was $\frac{2}{5}$ full. There was a pipe attached to Tank A, 15 cm from the base, where water can flow out of it and into Tank B. When Tina poured 1.7 litres of water into Tank A, how much water will flow out of Tank A into Tank B?

Do not write in this space



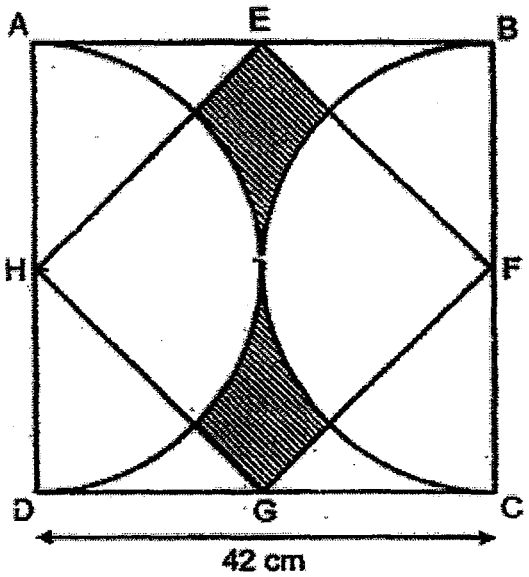
Ans: _____ [3]

(Go on to the next page)

10 The figure below is made up of 2 squares, ABCD and EFGH, and 2 identical semicircles. E is the mid-point of AB and G is the mid-point of DC.
Find the total area of the shaded parts.

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

Do not write in this space



Ans: _____ [3]

(Go on to the next page)

11 After selling 693 concert tickets at \$75 each, there were $\frac{2}{9}$ of the tickets left. $\frac{2}{3}$ of the remaining tickets were sold at \$60 each and the rest of the tickets were given away free. What was the total amount of money collected from the sale of tickets?

Do not write in this space

Ans: _____ [4]

(Go on to the next page)

12 Mr Suraj saves 40% of his salary every month. He gives $\frac{4}{15}$ of the remainder to his wife and divides the remaining amount of his salary equally among his two parents and two daughters. Given that both of his daughters receive a total of $352 from him, find Mr Suraj's monthly salary.

Do not write in this space

Ans: _____ [4]

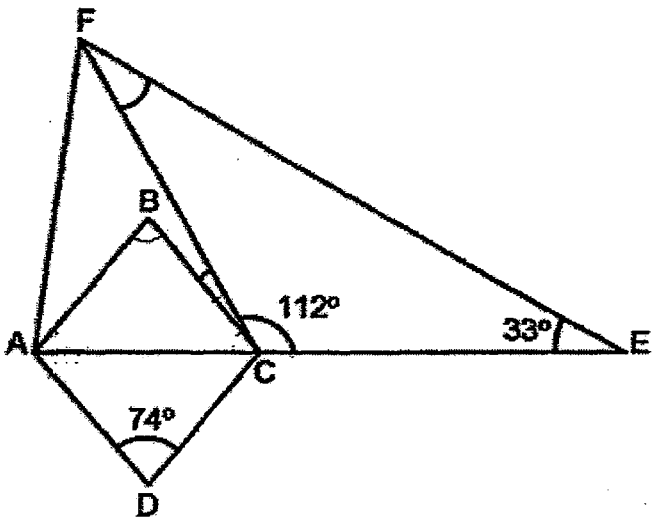
(Go on to the next page)

13 The figure below is not drawn to scale. ABCD is a rhombus and ACE is a straight line.

Do not write in this space

(a) Find ∠CFE.

(b) Find ∠BCF.



Ans: (a) _____ [1]

(b) _____ [3]

(Go on to the next page)

14 Bernice and Andrew drove from Town G to Town H. Bernice drove at an average speed of 90 km/h and took 40 min to reach Town H.
Andrew drove at an average speed of 80 km/h and reached Town H later than Bernice by 3 minutes.

Do not write in this space

(a) What was the distance between Town G and Town H?

(b) How many minutes earlier did Andrew start driving than Bernice?

Ans: (a) _____ [1]

(b) _____ [3]

(Go on to the next page)

15 There were some chicken pies, beef pies and mutton pies for sale at a bakery. $\frac{3}{5}$ of the pies were chicken pies. The ratio of the number of beef pies to the number of mutton pies was 7 : 3. There were 56 fewer beef pies than chicken pies. After some beef pies were sold, 30% of the remaining pies in the bakery were beef pies and mutton pies. How many beef pies were sold?

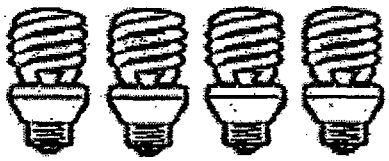
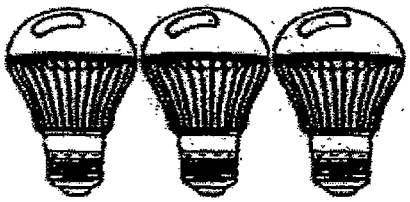
Do not write in this space

Ans: _____ [4]

(Go on to the next page)

16 Mr Lim and Mr Wong bought some light bulbs at prices shown below.

Do not write in this space

Small Bulbs	***Large Bulbs***
	
4 for $14.50	**3 for $19.30**

(a) Mr Lim bought 40 small bulbs and 66 large bulbs to fix in his office. He fixed an equal number of small bulbs in each room in his office and had 1 small bulb left. He also fixed an equal number of large bulbs in each room in his office and had 1 large bulb left. How many rooms were there in Mr Lim's office?

(b) $\frac{2}{5}$ of the bulbs that Mr Wong bought were small bulbs. Given that he paid $159.30 in total, how many bulbs did Mr Wong buy altogether?

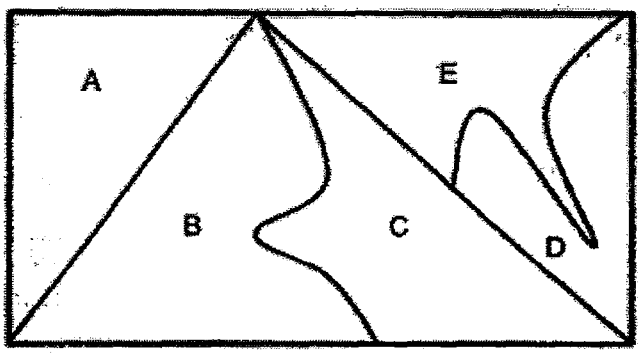
Ans: (a) _____ [2]

(b) _____ [3]

(Go on to the next page)

17 The rectangle below is divided into 5 parts, A, B, C, D and E.

Do not write in this space



The ratio of the area of A to the area of D to the area of E is 5 : 3 : 4.
The ratio of the area of A to the area of B is 3 : 4.

(a) Find the ratio of the area of B to the area of C to the area of E in the simplest form.

(b) Given that the area of A is 90 cm^2, find the area of the rectangle.

Ans: (a) _____ [3]

(b) _____ [2]

(Go on to the next page)

18 There were some green and red apples in a box. Ted took out $\frac{2}{11}$ of the green apples from the box. He replaced each of these green apples taken out with red apples. After that, he took out $\frac{2}{5}$ of the green apples and $\frac{1}{3}$ of the red apples. There were 108 green apples and 228 red apples left in the box in the end. What was the total number of green and red apples in the box at first?

Do not write in this space

Ans: _____ [5]

End of Paper

Setters:
Mr Jentry Tseng, Mdm Ong Li Ling, Miss Veronica Yeo

Henry Park Primary School 2016

Semestral Examination 1 Mathematics Primary 6

Paper 1 Booklet A

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

Paper 1 Booklet B

Q16. $8\frac{1}{50}$

Q17. 4952

Q18. 48cm (10x4+4x2)

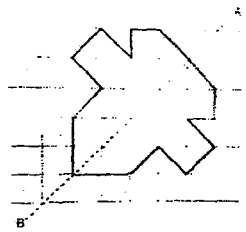
Q19. 49cm^2 (7x7)

Q20. 16cm^2 (8x2)

Q21. 44 (12+18+8+6)

Q22. 14.75s (14.6+14.9)/2

Q23.



Q24. 45km/h (60/40x60)

Q25. $45 (60/4x3)

Q26. 10cm^2

Q27. 45 (360-49-152-48-66)

Q28. $50 (10x5)

Q29. 120 (36/3x10)

Q30. $214 (200*1.07)

Paper 2

Q1. 96cm (96+33)

Q2. 405 (972/12x5)

Q3. 19 (15+4 and 14+5)

Q4. 41 (205/4)

Q5. 42cm^2 (84/24x2, 1/2x6x14)

Q6. $2.70 (21.10+3.60=24.70, 24.70/19=1.3,1.3x3-1.20=2.70)

Q7. (a) (7p-5) cents (b) 6 (8x0.3=2.40, 7.5-2.4=5.1, 5.1/0.85=6)

Q8. 82 ((90-69)x2, (90-62)x2, 180-42-56=82)

Q9. 0.3 (15X20X14=4200, 10x20x14=2800,2.8+1.7=4.5,4.5-4.2=0.3)

Q10. 189cm^2 (2x0.5x42x21=882, 22/7x21x21x0.5= 693, 882-693=189)

Q11. 59895 (693x75=3, 693/9x2=198, 198/3x2x60=7920, 7920+51975=59895)

Q12. 1600 (352X2=704, 704/11x15=960, 960/6x10=1600)

Q13. (a) 35 (180-112-33) (b) 15 ((360-74-74)/2=106, 106/2=53, 180-112-53=15

Q14. (a) 60km (4/6x90) (b) 2min (60/80=0.75 0r 45 mins, 45-40-3=2)

Q15. 25 (C:B:M=15:7:3 → 105:21:49, total = 150, 45-21=24, 49-24=25)

Q16. (a) 13 (40-1 =39, 66-1=65) (b) 30

Q17. (a) 20:16:12 → 5:4:3 (total = 72) (b) 450 (15u=90, 72u = 450)

Q18. 522

END