PAYA LEBAR METHODIST GIRLS' SCHOOL (PRIMARY)

PRELIMINARY EXAMINATION 2006

PRIMARY SIX

MATHEMATICS

BOOKLET A

2 hour and 15 minutes

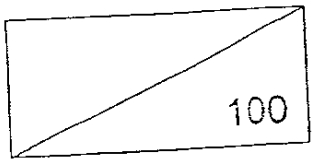
100 Marks

NAME : _____ ( )

CLASS : Primary 6 _____

DATE : 22 August 2006

Section A	/ 20
Section B1	/ 10
Section B2	/ 20
Section B3	/ 50
Total	/ 100



_____
Parent's Signature

INSTRUCTIONS TO CANDIDATES

Do not open this booklet until you are told to do so.

Follow all instructions carefully.

/

Section A

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 (1, 2, 3 or 4) on the Optical Answer Sheet. **(20 MARKS)**

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1. Find the value of $60 + 16 \div 2$.

8

(1) 38
(2) 48
(3) 58
(4) 68

2. Jenna has \$2. What is the maximum number of 22¢ stamps she can buy?

(1) 9
(2) 10
(3) 11
(4) 12

3. Which of the following is the same as $\frac{5}{8} \div 3$?

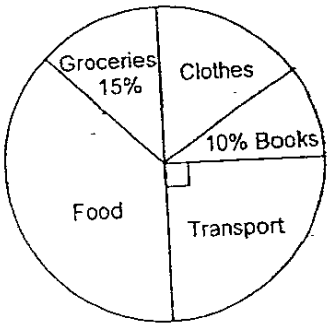
(1) $\frac{5}{8} \times \frac{1}{3}$
(2) $\frac{8}{5} \times \frac{1}{3}$
(3) $3 \times \frac{5}{8}$
(4) $3 \times \frac{8}{5}$

4. The area of a square is 144 cm^2. Its perimeter is _____ cm.

(1) 24
(2) 48
(3) 60
(4) 72

2

The pie chart below shows how Mr Tan spent his monthly salary. Study it carefully and answer questions 5 and 6.



5. What fraction of his money was spent on transport?

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

(2) $\frac{1}{4}$

(3) $\frac{1}{6}$

(4) $\frac{1}{8}$

6. What percentage of his monthly salary was spent on food?

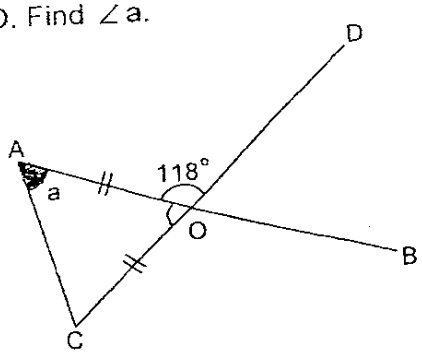
(1) 15%

(2) 25%

(3) 35%

(4) 50%

7. In this figure, AOB and COD are straight lines. AO = CO. Find $\angle a$.



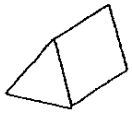
(1) 48°

(2) 56°

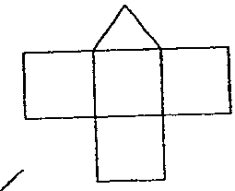
(3) 58°

(4) 59°

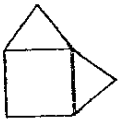
8. Which one of the following is the net of the solid ~~sown~~ shown below?



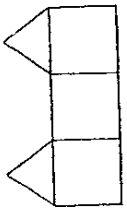
(1)



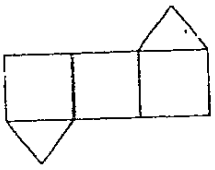
(2)



(3)



(4)



9. 9 papayas of the same type cost $c. What is the cost of 3 such papayas?

(1) $3c
(2) $9c
(3) $27c
(4) $\$(\frac{c}{3})$

10. Simplify $x - 4 + 9x$. The answer is _____.

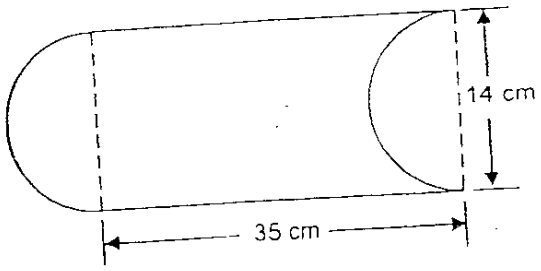
(1) $6x - 4$
(2) $6x - 9$
(3) $10x - 4$
(4) $15x - 9$

11. Shop A sells 10 eggs for $2.40. Shop B sells 8 eggs for $1.52. Find the difference in the price of one egg.

(1) 5 ¢
(2) 8 ¢
(3) 9 ¢
(4) 88 ¢

4

12. The figure below, not drawn to scale, is made up of 2 straight lines and 2 equal semi-circles. Find its perimeter. (Take $= \frac{22}{7}$)

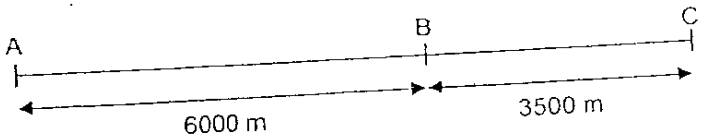


(1) 49 cm
(2) 79 cm
(3) 114 cm
(4) 158 cm

13. $\frac{3}{4}$ of Durai's storybooks is equal to $\frac{2}{5}$ of Hamid's storybooks. Find the ratio of the number of Durai's storybooks to the number of Hamid's storybooks.

(1) 2 : 3
(2) 3 : 2
(3) 8 : 15
(4) 15 : 8

14. Benjamin cycled from A to B at an average speed of 400 m/min. Then he cycled from B to C at an average speed of 350 m/min. Find the average speed for the whole journey.



(1) 370 m/min
(2) 375 m/min
(3) 380 m/min
(4) 385 m/min

15. A shop gave different discounts to different customers. Willy paid $1600 for a television set after a discount of 20%. Linda paid $1800 for the same television set. How many percent discount was given to Linda?

(1) 7.5%

(2) 10%

(3) 12.5%

(4) 15 %

PAYA LEBAR METHODIST GIRLS' SCHOOL (PRIMARY)

PRELIMINARY EXAMINATION 2006

PRIMARY SIX

MATHEMATICS

BOOKLET B

2 hour and 15 minutes

100 Marks

NAME : _____ ( )

CLASS : Primary 6 _____

DATE : 22 August 2006

INSTRUCTIONS TO CANDIDATES

Do not open this booklet until you are told to do so.

Follow all instructions carefully.

7

NAME : _____( )

PRIMARY 6____

B1
Q16 – Q25

Section B

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 250 g as a fraction of 2 kg.

Answer: _____

17. What is the missing number in the box below?

$$\frac{3}{7} = \frac{1}{14} + \square$$

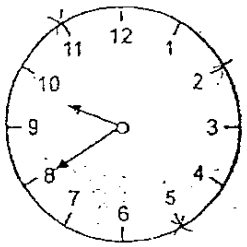
Answer: _____

18. The sum of $\frac{9}{10}$ and $\frac{35}{100}$ written as a decimal is _____.

Answer: _____

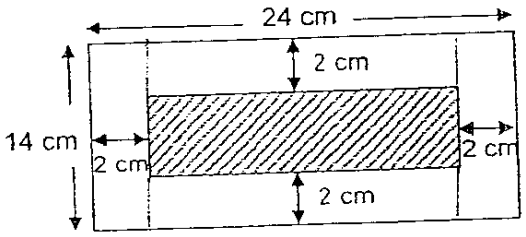
8

19. The clock below shows 9.40. When the minute hand moves through three right angles, what time will it be?



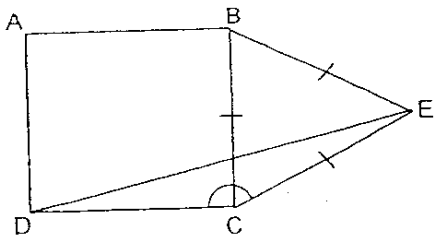
Answer: _____

20. Find the area of the shaded figure.



Answer: _____ cm^2

21. The figure is made up of a square ABCD and an equilateral triangle BCE. DE is a straight line. Find $\angle DCE$.



Answer: _____

22. The average of 3 numbers is 15. Two of the numbers are 7 and 18. What is the third number?

Answer: _____

23. In Primary 6A, 12% of the pupils wore spectacles. If 3 of the pupils wore spectacles, find the total number of pupils in Primary 6A.

Answer: _____

24. If A : B = 3 : 4 and B : C = 6 : 5, find A : C.

Answer: _____

25. Find the value of $\frac{8r+20}{5}$ when $r = 5$

Answer: _____

10

NAME : _____( )

PRIMARY 6____

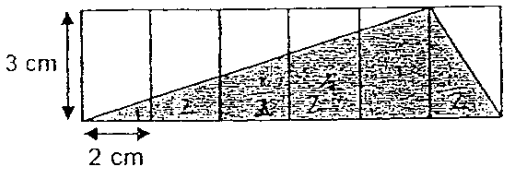
B2
Q26 – Q35

Questions **26** to **35** carry 2 marks each. **Show your working clearly** in the space below each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. **(20 MARKS)**

26. Maria has $\frac{2}{3}$ as much money as Susannah. If Susannah has $153, how much more money does Susannah have than Maria?

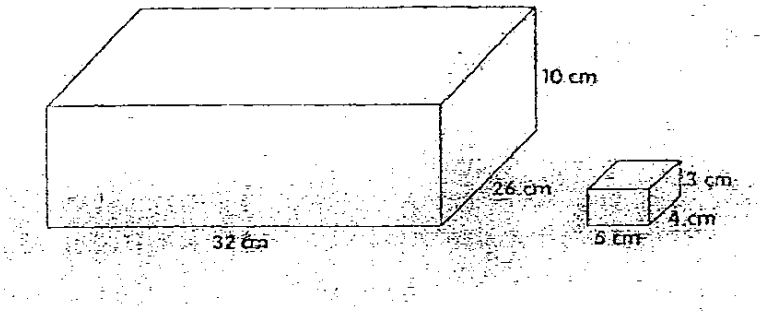
Answer: $

27. The figure below is made up of 6 identical rectangles. Each rectangle is 3 cm by 2 cm. What is the area of the shaded part?



Answer: cm^2

28. What is the maximum number of cuboids measuring 5 cm by 4 cm by 3 cm each that can be cut from a cuboid of dimensions 32 cm by 26 cm by 10 cm?



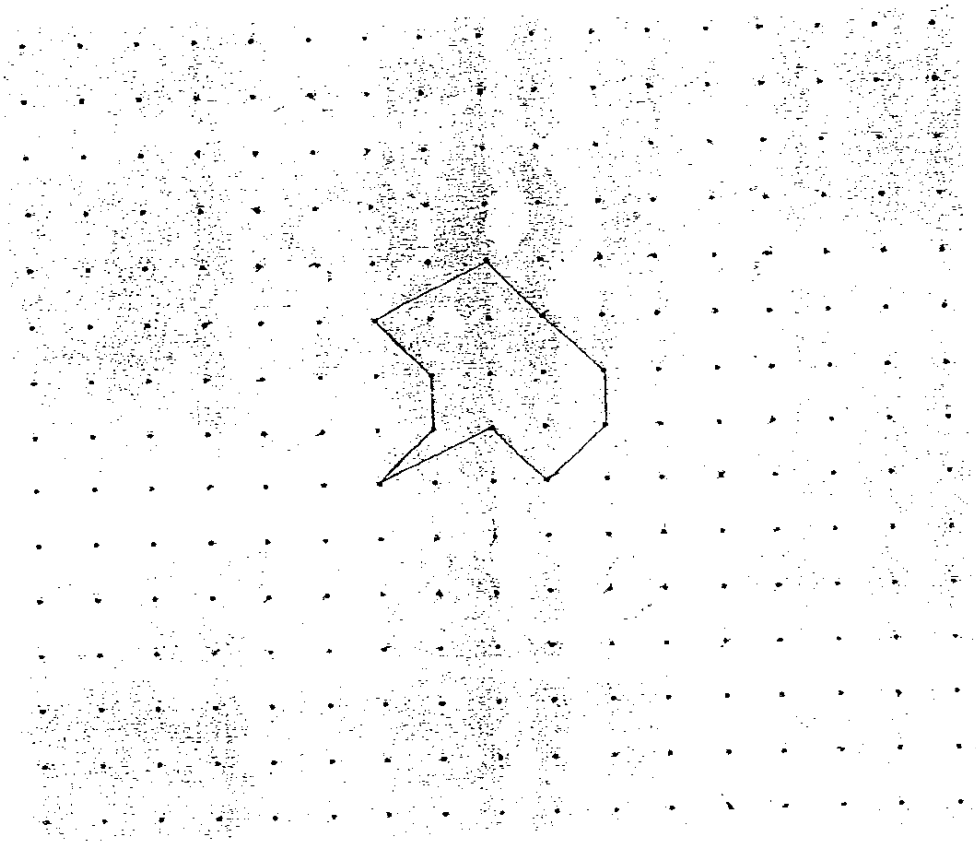
Answer: _____

29. It takes 5 men working at the same rate to complete a project in 18 hours. How long will it take 10 men working at the same rate to complete the same project?

Answer: _____ h

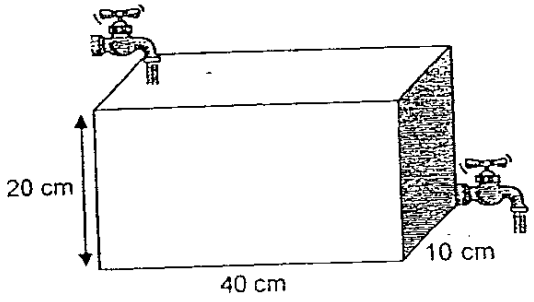
12

30. Use the given unit shape to form a tessellation in the space provided by adding 8 more unit shapes.



13

31. An empty rectangular tank is being filled with water from Tap A at a rate of 1 litre per minute. Tap B drains water out from the tank at a rate of 800 cm^3 per minute. How long will it take to fill half the tank if both taps are turned on at the same time?



Answer: _____ min

32. Ivy is 9 years old. Her age is 25% of her mother's age now. Express her age as a percentage of her mother's age 9 years from now.

Answer: _____ %

/4

33. Kumar bought 3 cartons of drink. He gave the cashier $p and received $8.00 in change. How much was each ~~can~~ carton of drink?

Answer: $

34. Josh, the painter, is improving his painting speed. On the first day, he painted 10 fence posts. On the second day, he painted 15 fence posts. On the third day, he painted 20 fence posts. How many fence posts will he paint on the tenth day if he keeps up with this pattern?

Answer:

15

35. Jeff, Gregory, Bert and Mike were discussing how they got to know each other. The group consisted of a doctor, a teacher, a lawyer and a banker.

The banker said, "Jeff and I were classmates."

Bert said, "Whenever I am sick, I would visit Gregory for medicine."

Mike said, "Jeff's child has been the best student in my school last year."

On hearing this, the lawyer turned to Bert and smiled.

Who is the banker?

Answer: _____

16

NAME : _____( )

PRIMARY 6____

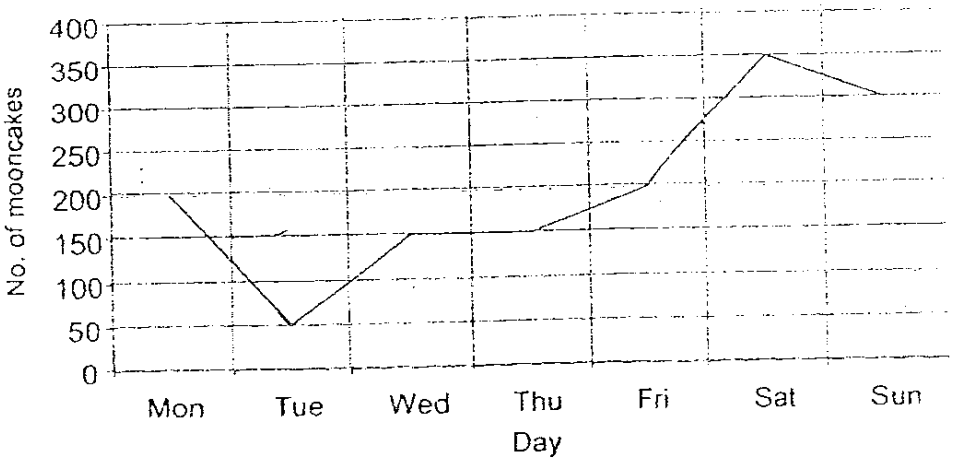
B3
Q36 – Q48

For questions 36 to 48, 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)**

36. The graph shows the daily sales of mooncakes at a shop. Use the graph to answer the following questions.

(a) On which day was there an increase in sales by 100 mooncakes?

(b) If 80% of the mooncakes sold had lotus paste filling, how many more mooncakes with lotus paste were sold than the rest?



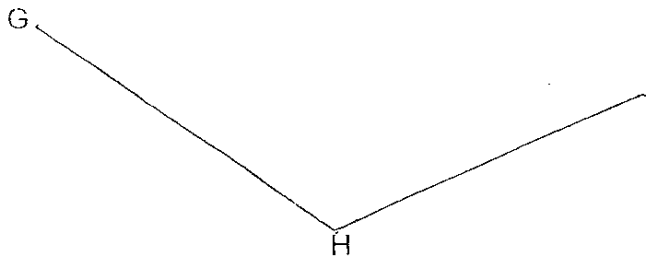
Answer: (a) _____(1m)

(b) _____(2m)

17

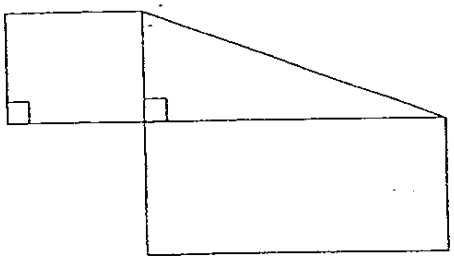
37. Construct a rhombus EFGH such that $\angle GHE = 120°$. (2m)

Measure $\angle HGF$.



Answer: _____(3m)

38. The figure below is made up of a triangle, a square and a rectangle. The area of the square is 36 cm^2 and the area of the rectangle is 112 cm^2. The breadth of the rectangle is 2 cm more then the length of the square. What is the area of the triangle?



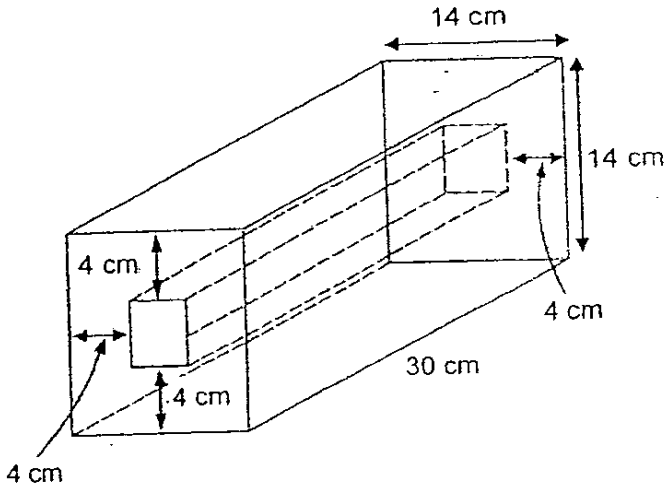
Answer: _____(3m)

39. There are 5 more 50-cent coins than 20-cent coins in the box. If the value of the coins in the box is $14.40, how many coins are in the box?

Answer: (a) _____(3m)

19

40. The solid below has a rectangular hole. Find the volume of the solid.



Answer: _____(3m)

20

NAME : _____( )

PRIMARY 6____

15

41. There were some pears in a box for sale.

Mrs Wee bought $\frac{1}{2}$ of all the pears in the box and was given 5 pears free.

Next, Mrs Sim bought $\frac{1}{2}$ of the remaining pears and was given 3 pears free.

Later, Mrs Poh bought $\frac{1}{2}$ of the remaining pears and was given 2 pears free.

If there were 12 pears left in the box, how many pears were there at first?

Answer: _____(3m)

42. Mrs Aretha wants to share a number of sweets equally among some children. If she wants to give each child 7 sweets, she will be short of 6 sweets. If she wants to give each child 6 sweets, she will have 9 sweets left over.

(a) How many children are there?

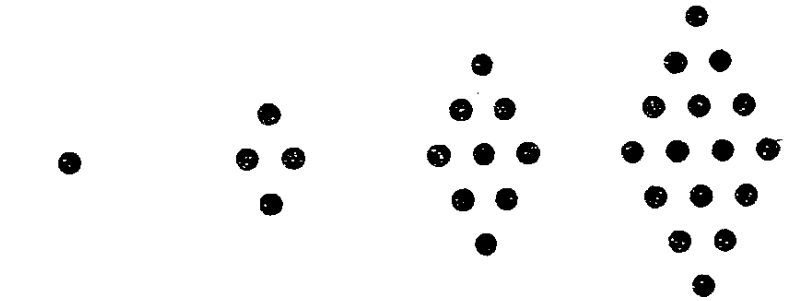
(b) How many sweets does Mrs Aretha have?

Answer: _____ (4m)

43. The ratio of the number of red marbles to the number of blue marbles in a box was 3 : 1. When 3 more red marbles and 4 more blue marbles were added into the box , the ratio became 2 : 1. How many red marbles were there at first?

Answer: _____ (4m)

44. Some beads are arranged as shown below.



Pattern 1 Pattern 2 Pattern 3 Pattern 4

(a) How many beads are used for Pattern 6?

(b) What is the pattern number when 225 beads are used?

Answer: (a) _____(2m)

(b) _____(2m)

24

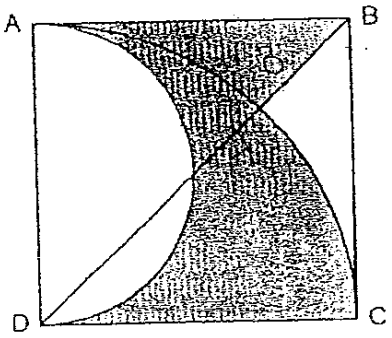
NAME : _____( )

PRIMARY 6____

20

45. The figure shows a square, a quadrant and a semi-circle. ABCD is a square of side 28 cm. Find the area of the shaded part.

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



Answer: _____(5m)

25

46. At 8.06 am, Mary and Jimmy started walking from their homes towards the park. Mary's speed was 60 m/min. At 8.26 am Jimmy was 200 m ahead of Mary.

(a) Find Jimmy's walking speed.

(b) If Jimmy reached the park 6 min ahead of Mary, what was the distance between their home and the park?

Answer: (a) _____ (2m)

(b) _____ (3m)

26

47. After Xiaoming donated 16% of his savings to his school and spent part of his savings to buy a bicycle, he had $330 left. After receiving some money from his father, Xiaoming has $430 now. If the amount given by his father was 20% of his original savings

(a) What was the amount of his original savings?

(b) Find the price of the bicycle.

Answer: (a) _____ (2m)

(b) _____ (3m)

48. Rosie's monthly pocket money was $\frac{3}{5}$ of Sheetal's pocket money. Rosie's expenditure was $\frac{7}{12}$ of Sheetal's expenditure. Rosie's monthly pocket money was $\frac{3}{4}$ of Sheetal's expenditure.

(a) (b) Find the ratio of Rosie's savings to Sheetal's savings.

(b) (c) If Rosie saved $11.20, how much more pocket money did Sheetal have than Rosie?

Answer: (a) _____ (2m)

(b) _____ (3m)

End of Paper

Please check your work.

28

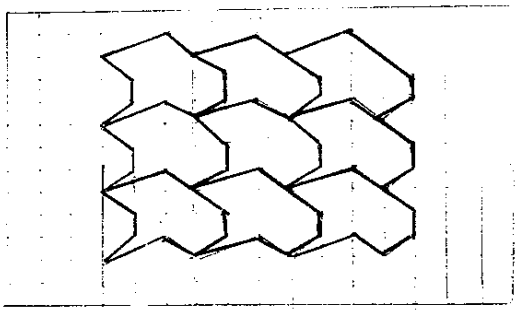
Paya Lebar Methodist Girls' Primary School

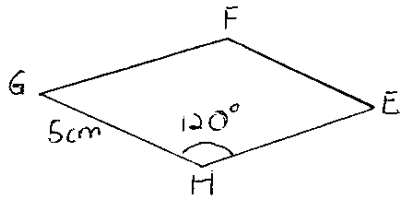
Primary 6 Maths Preliminary Exams (2006)

Answer Sheets

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

16. $\frac{1}{8}$
17. $\frac{5}{14}$
18. 1.25
19. 10.25
20. 200cm²
21. 150°
22. 20
23. 25 pupils
24 9 : 10
25. 12

26.	3u = $153 3u – 2u = 1u 1u = $153 ÷ 3 = $51.00 (Ans)	27.	3 x (3 x 2)cm = 18cm²
28.	10cm ÷ 5cm = 2 32cm ÷ 4cm = 8 26cm ÷ 3cm = 8 r2cm 2 x 8 x 8 = <u>128cm³</u> (Ans)	29.	5 men = 18 hours 10 men = <u>9 hours</u> (Ans)
30.		31.	$\frac{1}{2}$ x 20cm x 40cm x 10cm = 4000cm³ 1000cm³/min – 800cm³/min = 200cm³/min 4000cm³/min ÷ 200cm³/min = <u>20min</u>

32.	9 x 5 = 45 (Mother) 9 x 2 = 18 (Ivy) $\frac{18}{45}$ x 100 = <u>40%</u> (Ans)	33.	$\frac{\$(p-8)}{3}$ (Ans)
34.	Day 1 = 10 + (0 x 5) = 10 Day 2 = 10 + (1 x 5) = 15 Day 10 = 10 + (9 x 5) = 55	35.	Bert
36a.	There was an increase in 100 moon cakes on Wednesday.	37	 ∠HGF = 60°
36b.	200 + 50 + 150 + 150 + 200 + 350 + 350 + 300 = 500 + 400 + 500 = 1400 $\frac{60}{100}$ x 1400 = <u>840 moon cakes</u> (Ans) 840 more moon cakes with lotus paste were sold.		
38.	36cm² = 6cm x 6 cm (Length of square) Length of rectangle = 112cm² ÷ 8cm = 14cm Area of Δ = $\frac{1}{2}$ x 6 x 14 = 42cm² The area of the Δ = <u>42cm²</u> (Ans)	39.	5 x 0.50 = 250¢ = \$2.50 \$(14.40 – 2.50) = \$11.90 \$11.90 ÷ (\$0.50+\$0.20) = \$11.90 ÷ \$0.70 = 17 (20¢ coins) = (17 x 2) + 5 = <u>39</u> (Ans) There are 39 coins in the box.
40.	Vol. of whole solid = (14 x 14 x 30)cm = 5880cm³ Vol. of hole = (6 x 6 x 30)cm = 1080cm³ Vol. of solid = (5880 – 1080)cm³ = <u>4800cm³</u> (Ans) The vol. of the solid is 4800cm³	41.	12 + 2 x 2 = 28 28 + 3 x 2 = 62 62 + 5 x 2 = <u>134</u> (Ans)

42a.	$\frac{9+6}{7-6}$ = 15 (Ans) There are 15 children	43.	1u = 8 – 3 = 5 3u = 5 x 3 = 15 (Ans) There were 15 red marbles at first.
42b.	(15 x 6) + 9 = 99 (Ans) Mrs Aretha has 99 sweets.		
44.	Pattern No. 2 = No. of beads	45.	Area of quadrant = $\frac{1}{4}$ x $\frac{22}{7}$ x 28 x 28 = 616cm²
a.	6 x 6 = 36 beads are used for pattern 6		Area of semi-circle = $\frac{1}{2}$ x $\frac{22}{7}$ x 14 x 14 = 308cm²
b.	225 = 15 x 15 (Ans) The pattern number is 15 when 225 beads are used		Area of A = (616 – 308)cm² = 308cm² Area of Δ = $\frac{1}{2}$ x 28 x 28 = 392cm² $\frac{1}{8}$ of circle = $\frac{1}{8}$ x $\frac{22}{7}$ x 28 x 28 = 308cm² Area of B = (392 – 308)cm² = 84cm² Area of shaded = (308 + 84)cm² = 392cm² (Ans) The area of shaded part is 392cm²
46a.	60m/min x 20min = 1200m 1200m + 200m = 1400m 1400m ÷ 20min = 70m/min Jimmy's walking speed is 70m/min	47a.	$(430 – 330) = $100 (given by father) 20% = $100 100% = $100 x 5 = 500 His original saving was $500
46b.	6min x 60m/min = 360m 360m ÷ 10m/in = 36min (total time) 36min x 70m/min = 2520m (Ans) The distance between their home and the Park is 2520km.	47b.	$\frac{16}{100}$ x 500 = $80 $500 – $(80 + 330) = $90 (Ans) The price of the bicycle is $90

48.	**Pocket $** **Expenditure** **R $:exp** **R : S** **R : S** **3 : 4** **3 : 5** **7 : 12** **9 : 12** **9 : 15**		
a.	**9u – 7u = 2u (Rosie)** **15u – 12u = 3u (Sheetal)** **2 : 3 (Ans)** **The ratio of Rosie savings to Sheetal is 2:3**		
b.	**2u = $11.20** **1u = $11.20 ÷ 2 = $5.60** **6u = $5.60 x 6 = $33.60 (Ans)** **Sheetal had $33.60 more pocket money than Than Rosie**		