NAN HUA PRIMARY SCHOOL
SEMESTRAL EXAMINATION 1 – 2013
PRIMARY 6

MATHEMATICS

Paper 1

Section A: 15 Multiple Choice Questions (20 marks)

Section B: 15 Short Answer Questions   (20 marks)

Total Time for Paper 1:   50 minutes

INSTRUCTION TO CANDIDATES

1. Write your name and index number in the space provided.
2. Do not turn over the page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Shade your answers in the Optical Answer Sheet (OAS) provided for Questions 1-15.
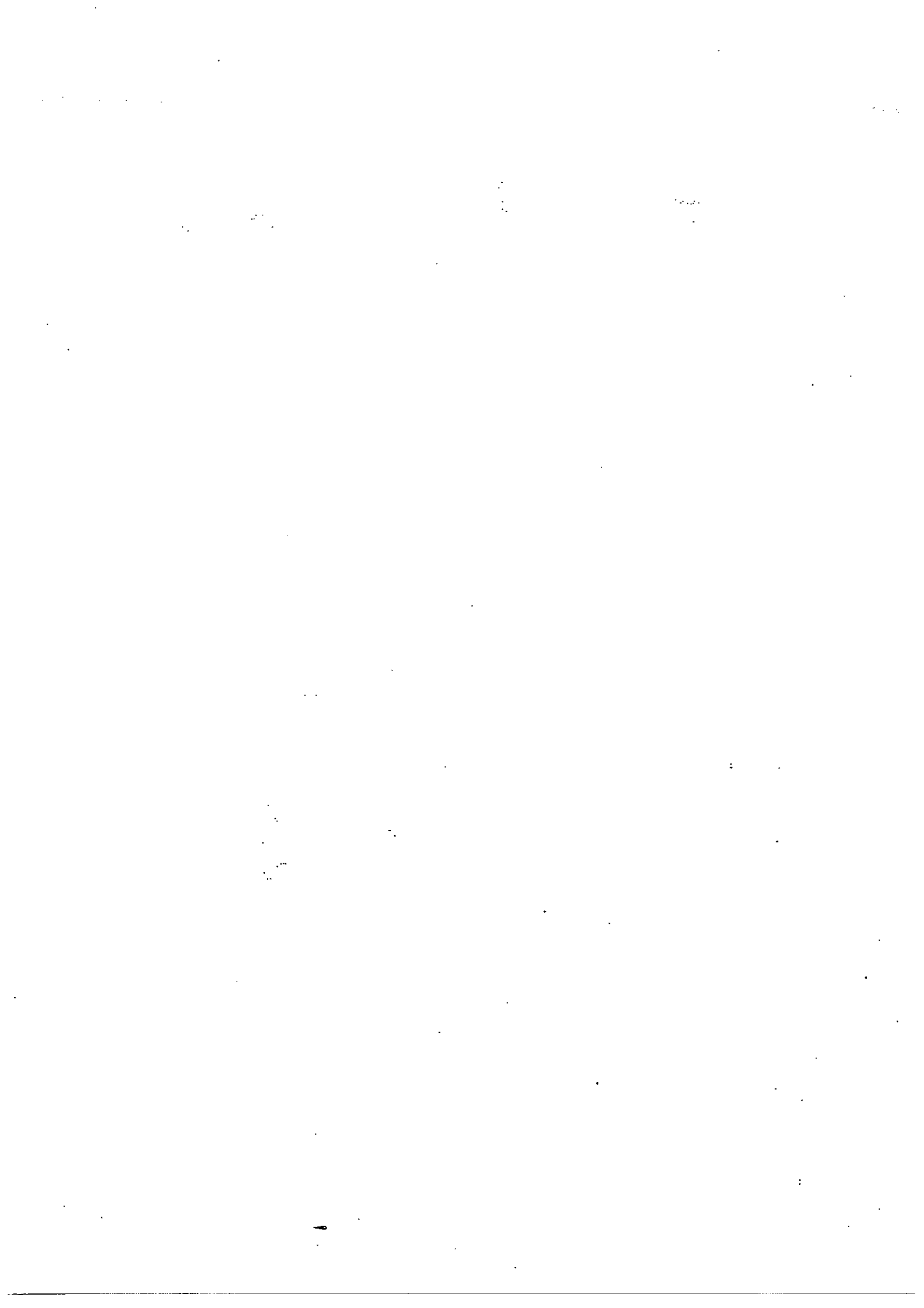6. You are not allowed to use calculator for Paper 1.

Marks Obtained

Paper 1	Booklet A		/ 40
	Booklet B		
Paper 2			/ 60
Total			/ 100

Name : _____ (   )

Class : _____

Date :   14 May 2013   Parent's Signature :_____

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.

1.   How many eighths are there in $2\frac{5}{8}$?

   (1)   16

   (2)   18

   (3)   21

   (4)   25

                                                    (   )

2.   Express $\frac{3}{7}$ as a decimal. Give your answer correct to **2 decimal places**.

   (1)   0.42

   (2)   0.43

   (3)   2.33

   (4)   2.34

                                                    (   )

3.   The cost of a Toyoto car, correct to the nearest thousand, is $140 000. Which one of the following could be the actual cost of the car?

   (1) $138 599

   (2) $139 499

   (3) $140 499

   (4) $140 599

                                                    (   )

4. Simplify $5a + 9 - 3a - 4$.

    (1) $2a - 5$

    (2) $2a + 5$

    (3) $8a + 13$

    (4) $8a - 13$ (   )
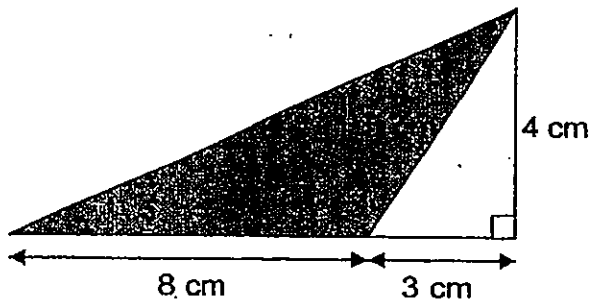
5. Express 80 mℓ as a ratio of 4 ℓ in its simplest form.

    (1) $1 : 2$

    (2) $1 : 5$

    (3) $1 : 20$

    (4) $1 : 50$ (   )

6. Find the shaded area of the figure.

    (1) 12 cm^2

    (2) 16 cm^2

    (3) 20 cm^2

    (4) 32 cm^2 (   )

7. Siti bought some oranges. She found out that $\frac{11}{25}$ of them were rotten. What percentage of her oranges was <u>not</u> rotten?

    (1)   11%

    (2)   14%

    (3)   44%

    (4)   56%

                                        (   )

8. At a meeting, the number of male was $\frac{5}{7}$ of the number of female. Express the number of female as a ratio of the total number of people.

    (1)   5 : 7
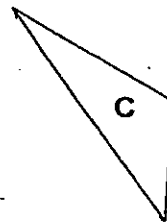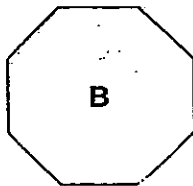
    (2)   7 : 5

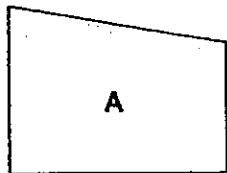   (3)   5 : 12

    (4)   7 : 12

                                          (   )

9. Which of the following fractions is the largest?

    (1) $\frac{13}{16}$

    (2) $\frac{7}{12}$

    (3) $\frac{7}{8}$

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

                                          (   )

10. Mdm Fatimah wants to lay her bedroom floor with tiles of only one shape. The tiles must fit together without any gaps or overlaps between them. Which of the following shapes can she choose from?


    (1)   A only

    (2)   A and C only

    (3)   B and C only

    (4)   A, B and C   (   )

11. The ratio of Bobby's money to Albert's money was 4 : 5. Albert's mother gave him some money, and as a result, the ratio of Bobby's money to Albert's money became 2 : 3. What was the percentage increase in Albert's money?

    (1)   50%

    (2)   30%

    (3)   25%
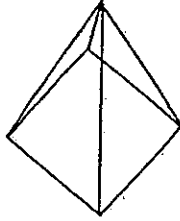
    (4)   20%   (   )

12. Two quadrants of the same radius are cut out from a square as shown below. Find the perimeter of the figure that is left. (Leave your answer in terms of π)

26 cm
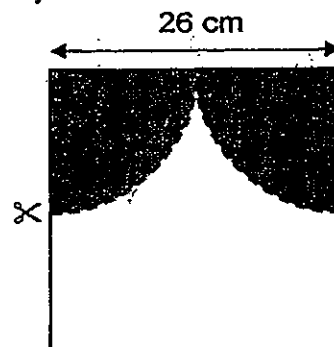
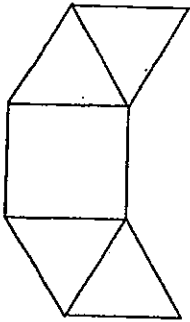   (1) $(13\pi + 52)$ cm

    (2) $(13\pi + 104)$ cm

    (3) $(26\pi + 52)$ cm

    (4) $(26\pi + 104)$ cm

                          (   )
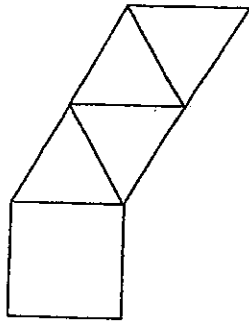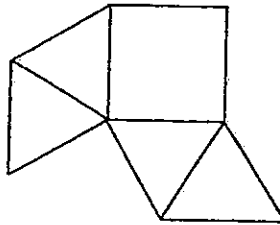
13.

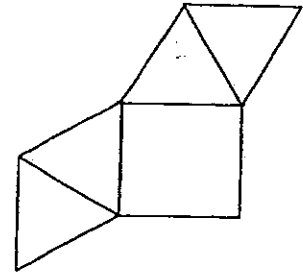Which one of the following nets can be folded to form the pyramid shown above?

A   B   C   D

(1)   A

(2)   B

(3)   C

(4)   D

(   )

14.   John can buy either 36 identical pens or 24 identical files with the money he has. After buying 8 such files and 18 such pens, how many more such pens can John buy with the remaining money he has?
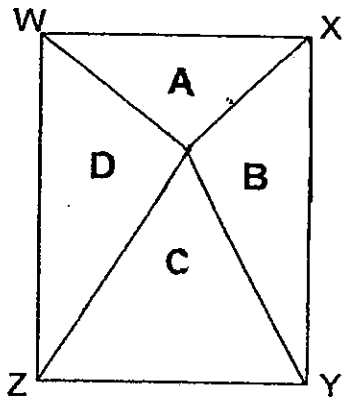
(1)   24

(2)   18

(3)   6

(4)   4

)

5

15. WXYZ is a rectangle formed using 4 triangles A, B, C and D.

The area of Triangle A is 72 cm².

The ratio of area of Triangle C to area of Triangle B is 13 : 10.

The area of Triangle D is $\frac{6}{5}$ the area of Triangle B.

Find the area of rectangle WXYZ.

(1) 352 cm²

(2) 324 cm²

(3) 288 cm²

(4) 282 cm²   (   )

Section B (20 marks)

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. Find the value of $\dfrac{5}{6} + \dfrac{1}{4}$

Express your answer as a mixed number in the simplest form.

Ans : _____

17. Express 1.25 as a percentage.

Ans : _____ %

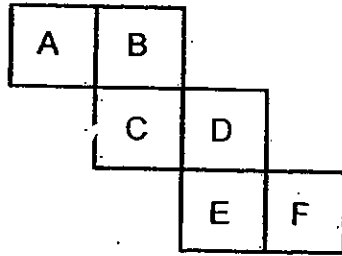18. If $y = 4$, find the value of $\dfrac{5y - 6}{2}$

Ans: _____

19. John has $8. He has k times as much money as his sister. How much does his sister have?

Ans : $ _____

7

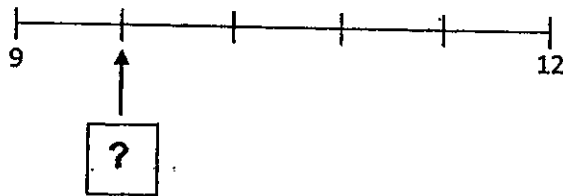| Subtotal | / 4 |

20. The figure below shows the net of a cube.

If the figure is folded to make a cube, which letter will be directly opposite letter A?

A	B
C	D
E	F

Ans :_____

21. The figure below shows a number line.
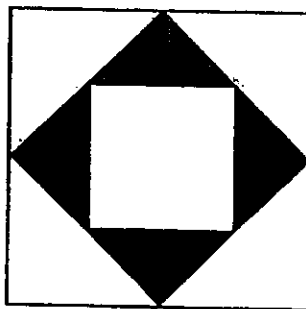
What is the value indicated by the arrow?

9   12

?

Ans :_____

22. The figure below is made up of 3 squares of different sizes.

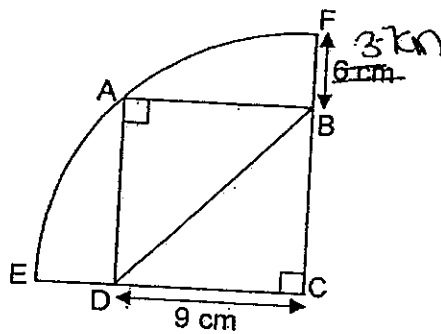What fraction of the figure is shaded?

Ans :_____

8

| Subtotal | / 3 |

23. How many of the following letters has/have only 1 line of symmetry?

L   U   C   K

Ans :_____

24. ABCD is a square within a quadrant CEF. Find the length of the line BD.

F
3kn
6cm
A
B
E
D
9 cm
C

Ans: _____ cm

25. The figure below is a square made up of four parts, P, Q, R and S.

Q is a square and is $\frac{1}{4}$ of the figure. S is a parallelogram.

P
S
R
Q
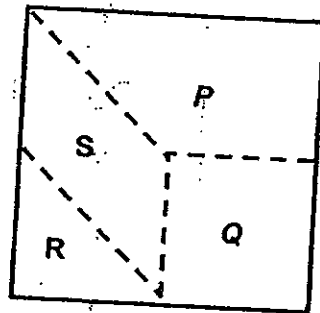
What percentage of the figure is S?

Ans : _____ %

9

| Subtotal | / 3 |

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 each questions which require units, give your answers in the units stated.   [10 marks]

26.   The area of a square is 121 cm². What is the perimeter of the square?

(

Ans : _____ cm

27.   The figure below is made up of identical cubes. Without re-arranging the existing cubes, what is the **least** number of similar cubes **to be added** to change the figure into a cuboid?
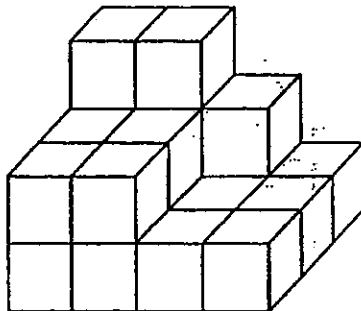
Ans : _____

| Subtotal | / 4 |

28. Kathy travelled 40 km in 20 min and another 30 km in 20 min. Find her average speed for the whole journey, giving your answer in km/h.

Ans : _____km/h

29. Auntie Nora has $\frac{9}{10}$ kg of chilli powder. She repacks them into packets of 15 g each. How many such packets does she get?

Ans : _____

30. A snail is at the bottom of a 15 m well. For every 3 m it climbs in 3 min, it will rest for the next 2 min. At this rate, how long does it take for the snail to reach the top of the well?

Ans : _____ min

Subtotal	/ 6

NAN HUA PRIMARY SCHOOL
SEMESTRAL EXAMINATION 1 – 2013
PRIMARY 6

MATHEMATICS

Paper 2

Total Time for Paper 2: 1 hour 40 minutes

5 Short Answer Questions   (10 marks)

13 Structured / Long Answer Questions (50 marks)

INSTRUCTION TO CANDIDATES

1. Write your name and index number in the space provided.
2. Do not turn over the page until you are told to do so.
3. Follow all instructions carefully
4. Answer all questions and show your workings clearly.
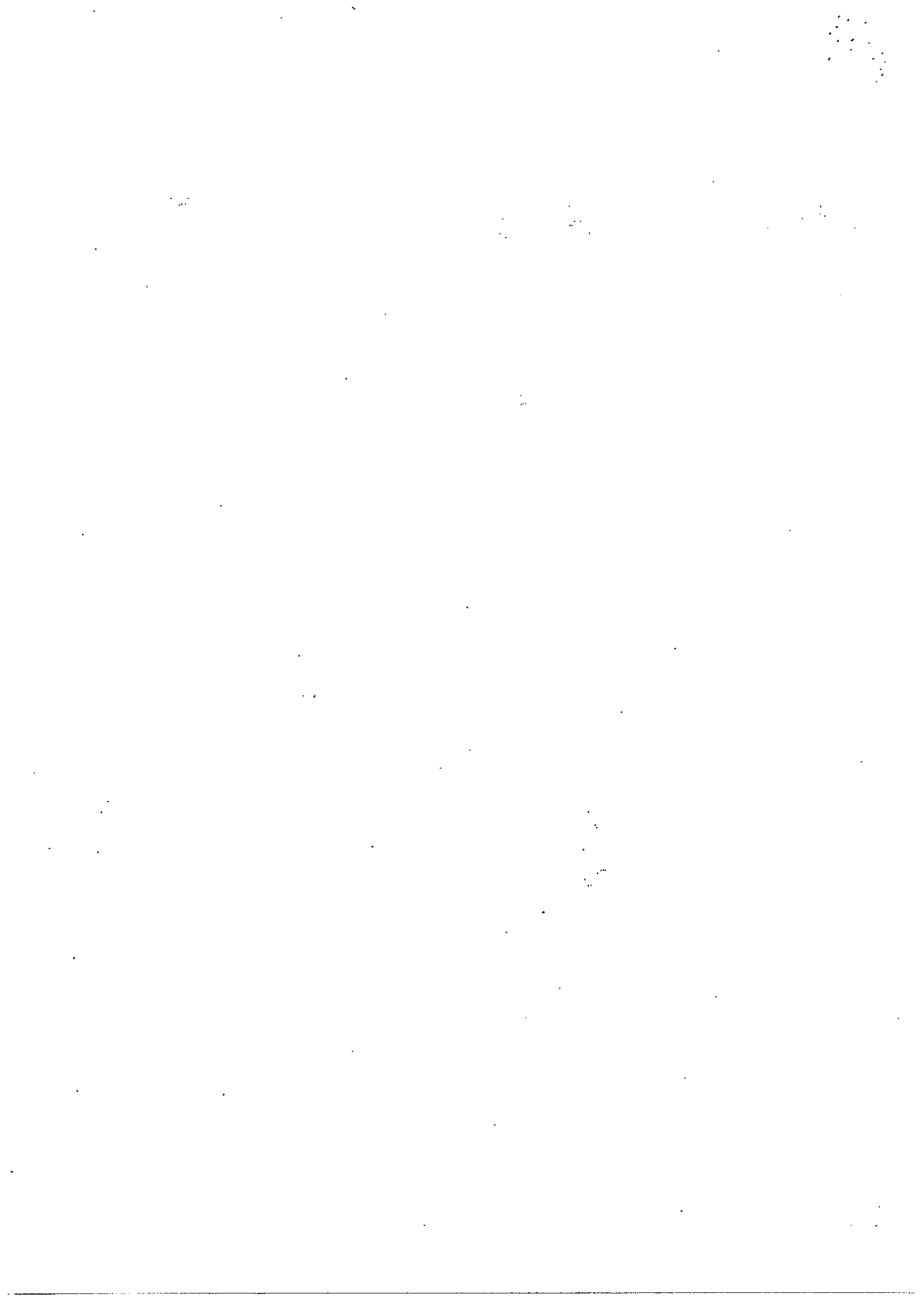5. You are allowed to use a calculator.

Marks Obtained

Total		/ 60

Name : _____(   )

Class : 6_____

Date : 14 May 2013   Parent's Signature :_____

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 answers in the units stated.
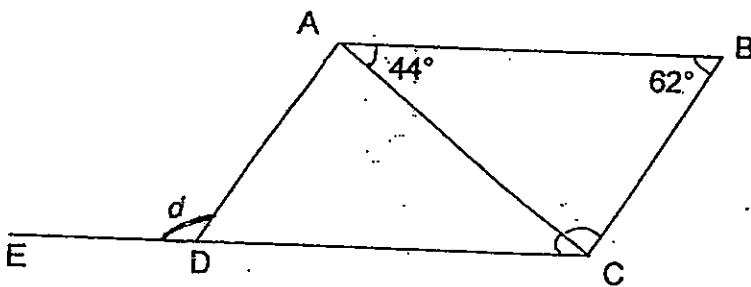
1. The figure below shows a running track with its semi-circular ends. Find the perimeter of the running track.

(Take $\pi = \dfrac{22}{7}$)
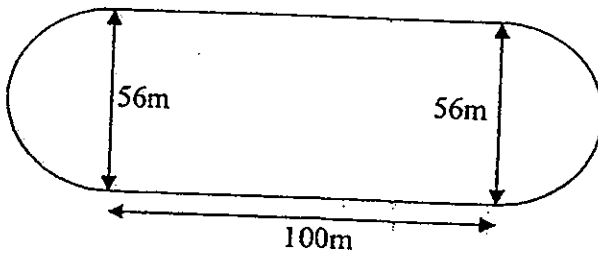
Ans: _____ m

2. In the figure below, ABCD is a parallelogram (not drawn to scale). EDC is a straight line. Find $\angle d$.

Ans. _____ °

3. Mr Ong has 40 cars and bicycles altogether. There are a total of 110 wheels. Find the number of cars Mr Ong has.

Ans : _____

4. Mrs Tan spent $450 of her monthly salary and saved the rest. When she increased her monthly spending by 30%, her savings decreased by 10%. Find her monthly salary.

Ans : $ _____

5. The table below shows the parking charges at a shopping mall.

Duration	Rates
First 1 hour or less	$2.14
Subsequent 30 min or part thereof	$1.07

Mr Hamilton parked his car at the mall from 2.40 p.m. to 5.05 p.m. How much parking charges would he have to pay?

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 the brackets [ ] at the end of each question or part question. Remember to include the units wherever possible.

6. The average height of 4 girls was 120 cm. When Jane joined them, the average height increased by 9 cm. What was Jane's height?

    Ans :_____[3m]

7. Mrs Lim buys a water melon. She keeps $\frac{1}{4}$ of it for her husband. Her children share the remaining water melon. Each child eats $\frac{1}{8}$ of the water melon. How many children does she have?

    Ans :_____ [3m]

8. Jun Kai had just enough pocket money to buy some $1.50 burgers or $1.20 burgers. He realised that if he had spent all his money on $1.50 burgers, he would have 8 burgers fewer than if he had spent $1.20 per burger. How much was his pocket money?

Ans : _____ [3m]

9. Mr Wong is 9k years old now. He has 2 sons, Bryan and Nigel. He is 3 times as old as Nigel now. Bryan is 2k years younger than Nigel.

(a)   How old is Bryan now?

(b)   How old will Mr Wong be when Bryan is 18 years old?

Leave your answers for both (a) and (b) in terms of k.

Ans : (a)_____ [1m]

(b)_____ [2m]

10. A baker made some cupcakes for sale. He sold 450 cupcakes in the morning and $\frac{3}{5}$ of the remainder in the afternoon. He was left with 10% of the original number of cupcakes. How many cupcakes did he make?

Ans :_____[3m]

11. Bob, Clement, Dominic went to buy a gift for Mrs Lee. They shared the cost equally among themselves. However, Dominic forgot to bring his money. So, his friends paid for the gift first.
The ratio of the amount Bob paid to the amount Clement paid was 4 : 5.
The next day, Dominic returned $18.90 to Clement and some money to Bob.
What is the cost of the gift?

Ans_____[3m]

12. A van took 3 hours to travel from Town A to Town B at an average speed of 65 km/h. A lorry travelled along the same route at an average speed of 75 km/h. The lorry arrived at Town B at 1630.
   (a) What was the distance from Town A to Town B?
   (b) At what time did the lorry leave Town A?

Ans : (a)_____[2m]

(b) _____[2m]

6

13. The original selling price of a computer was $2800. A shop sold it at a discount of 20% during a sale. If the shop charged a 7% GST on the discounted price,

(a)   how much was the GST?

(b)   how much was the computer sold including GST?

Ans : (a)_____ [2m]

(b)_____[2m]

14. The ratio of the number of male to the number of female in the hall was 5 : 3. The number of male to the number of female in the auditorium was 7 : 1.

There were twice as many people in the hall as in the auditorium.

(a) What was the ratio of the number of female in the hall to the number of male in the auditorium?

(b) When 18 male left the auditorium and 16 female went into the auditorium, the ratio of the number of male to the number of female in the auditorium became 2 : 1.

How many male were there in the auditorium in the end?

Ans : (a) _____ [1m]

(b) _____ [3m]

8

15. The pattern below is made up of circles and triangles.
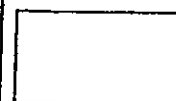Study the pattern carefully and answer the questions below.

Pattern 1	Pattern 2	Pattern 3	Pattern 4

(a) How many circles are needed to form Pattern 6?

(b) Which Pattern number has exactly 144 triangles?

(c) The number of circles used in Pattern N is exactly the same as the number of triangles used to form Pattern 20. What is N?

Ans : (a)_____[1m]

(b)_____[2m]

(c)_____[2m]

16. Jonathan and Benjamin started brisk walking from Point A but in opposite direction. After walking for $\frac{3}{4}$ h , they were 7.2 km apart. Jonathan's speed was 1.4 km/h slower than Benjamin.

    (a)   Find Jonathan's speed.

    (b)   If Benjamin continued to brisk walk for another $\frac{1}{2}$ h, find the total distance covered by him. Give your answer correct to 1 decimal place.

Ans : (a)_____[3m]

      (b)_____[2m]

17. Two different tanks, A and B, were filled with water.
If Tank A leaked 10 mℓ of water each hour and Tank B leaked 5 mℓ of water each hour, Tank A would still have 300 mℓ of water left when Tank B became empty.
If Tank A leaked 5 mℓ of water each hour and Tank B leaked 10 mℓ of water each hour, Tank A would still have 750 mℓ of water left when Tank B was empty.
How much water was there in tank A at first?

Ans:_____[5m]

18. A factory manufactured 2620 'Small', 'Medium' and 'Large' size T-shirts. The ratio of the number of 'Medium' size T-shirts to the number of 'Small' size T-shirts was 1 : 3. After $\frac{3}{5}$ of the 'Small' size T-shirts, $\frac{1}{4}$ of the 'Large' size T-shirts and none of the 'Medium' size T-shirts were sold, there were 1645 T-shirts left. How many 'Small' size T-shirts were there at first?

Ans: _____ [5m]
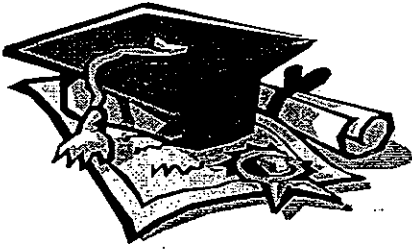
ANSWER SHEET

EXAM PAPER 2013
SCHOOL : NAN HUA
SUBJECT : PRIMARY 6 MATHEMATICS

TERM : SA1

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

16)1₁/₁₂   17)125%   18)7   19)$(8/15)   20)D

21)9.6   22) ¼   23)2   24)12.7cm   25)25%

26)44cm   27)15   28)105 km/h   29)60   30)23 min

Paper 2

1)22/7 x 56 = 176
   176 + 100 + 100 = 376m

2)118°

3)40 x 2 = 80
   110 − 80 = 30
   4 − 2 = 2
   30 ÷ 2 = 15

4)450 ÷ 100 x 130 = 585
   585 − 450 = 135
   10% of saving → 135
   100% of saving → 1350
   1350 + 450 = $1800

5)$5.35

6)120 x 4 = 480
   120 + 9 = 129
   129 x 5 = 645
   645 − 480 = 165cm

7)1 − ¼ = ¾
   ¾ ÷ 1/8 = ¾ x 8/1 = 6

8)8 x 1.20 = 9.6
   9.6 ÷ 0.3 = 32
   32 x 1.50 = 48
   32 + 8 = 40
   40 x 1.20 = $48

9)a)1K years old
   b)26K years old

10)2/5 = 1/10 of original
   1/5 = 1/20 of original
   5/5 = 5/20 of original
   1 − 5/20 = 15/20
   15/20 of original→450
   1/20 of original→30
   20/20 of original→600

11)$85.05

12)65 x 3 = 195
   195 ÷ 75 = 2$_{3/5}$
   60 ÷ 5 x 3 = 36

1354   2h36min   1630
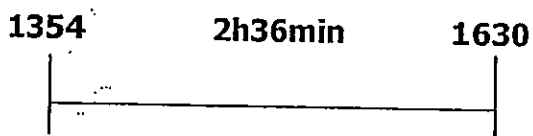
a)195km
b)1354 or 1.54p.m.

13) $2800 \div 100 \times 80 = 2240$
   $2240 \div 100 \times 7 = 15680$
   $2240 \div 100 \times 107 = 239680$
 a)$156.80
 b)$2396.80

14) a)6 : 7
   b)52

15) a)$6 + 5 = 11$
   b)$\sqrt{144} = 12$
      $12 + 1 = 13$
   c)$20 - 1 = 19$
      $19 \times 19 = 361$
      $361 - 1 = 360$
      $360 \div 2 = 180$
      $180 + 1 = 181$

16) $1.4 \times \tfrac{3}{4} = 1.05$
   $7.2 - 1.05 = 6.15$
   $6.15 \div 2 = 3.075$
   $3.075 \div 3 \times 4 = 4.1$
   $4.1 + 1.4 = 5.5$
   $5.5 \div 2 = 2.75$
   $5.5 \div 4 \times 3 = 4.125$
   $4.125 + 2.75 = 6.875$
   $6.875 \approx 6.9$
 a)4.1km/h
 b)6.9km

17) 900ml

18) 1200