



NAN HUA PRIMARY SCHOOL
PRELIMINARY EXAMINATION – 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 : 6 _____

Date : 27 Aug 2013

Parent's Signature : _____

Section A (20marks)

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. The distance between Clementi Town and West Coast Town when rounded off to the nearest hundred km is 2 500 km. Which of the following is a possible distance between the two towns?
 - (1) 2 442 km
 - (2) 2 490 km
 - (3) 2 554 km
 - (4) 2 560 km

2. What is the value of 60.51×200 ?
 - (1) 121.02
 - (2) 1210.2
 - (3) 12102
 - (4) 121020

3. Find the value of $120 \div 3 + 3 \times 2$.
 - (1) 10
 - (2) 40
 - (3) 46
 - (4) 86

4. The ratio of Liling's age to John's age is 3 : 8. What fraction of their total age is John's age?

(1) $\frac{3}{11}$

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

(3) $\frac{8}{11}$

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

5. $9 \times \frac{2}{3} = 4 \times \frac{2}{3} + \frac{2}{3} + \frac{2}{3} + \boxed{} \times \frac{2}{3}$

What is the missing number in the box?

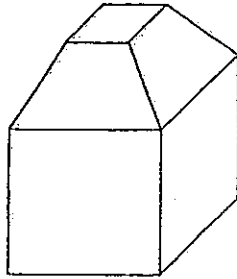
(1) 1

(2) 2

(3) 3

(4) 5

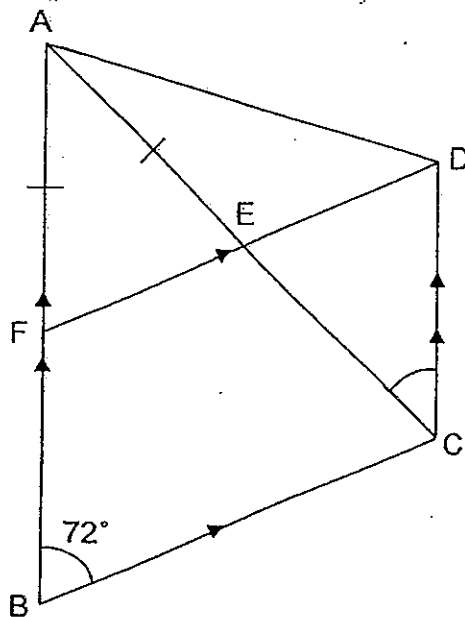
6. How many faces does the following solid have?



- (1) 5
 - (2) 7
 - (3) 9
 - (4) 10
7. Mrs Lim woke up at 6.45 a.m. She took 10 min to get dressed and leave her house for work after having her breakfast. If she left her house at 7.25 a.m., how much time did she spend eating her breakfast?
- (1) 20 min
 - (2) 25 min
 - (3) 30 min
 - (4) 35 min
8. John and Linda have a total of \$35.50. John and Sally have a total of \$76.90. Sally has 3 times as much money as Linda. How much does Linda have?
- (1) \$13.80
 - (2) \$20.70
 - (3) \$41.40
 - (4) \$62.10

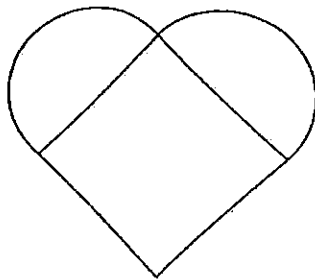
9. In a box of marbles, 40% of the marbles were red and the rest were green. There were 84 more green marbles than red marbles. What was the total number of marbles in the box?
- (1) 140
(2) 210
(3) 252
(4) 420
10. After giving away $\frac{1}{6}$ of his blue pens and $\frac{3}{4}$ of his red pens, David had the same number of blue and red pens left. What fraction of David's pens (at first) did he give away?
- (1) $\frac{3}{11}$
(2) $\frac{2}{5}$
(3) $\frac{8}{13}$
(4) $\frac{11}{12}$

11. The figure below, not drawn to scale, shows a parallelogram BCDF and an isosceles triangle ABC. Given that $\angle FBC = 72^\circ$, find $\angle ACD$.



- (1) 24°
 (2) 36°
 (3) 54°
 (4) 60°
12. A tank with a square base has a volume of 108 cm^3 . The length of one side of the base is $\frac{1}{4}$ that of its height. Find the area of its base.
- (1) 27 cm^2
 (2) 18 cm^2
 (3) 3 cm^2
 (4) 9 cm^2

13. The figure below is formed by a square and 2 semicircles of diameter 6 cm. Find the perimeter of the figure. Leave your answer in terms of π .



- (1) $(3\pi + 12)$ cm
(2) $(6\pi + 12)$ cm
(3) $(6\pi + 24)$ cm
(4) $(36\pi + 36)$ cm
14. The height of a man is thrice the average height of 5 boys. If the total height of the man and 5 boys is 432 cm, find the total height of the 5 boys.
- (1) 162 cm
(2) 216 cm
(3) 270 cm
(4) 360 cm

15. A number is between 40 and 65. When $\frac{5}{6}$ of this number is divided by 5, the result is a whole number. When $\frac{2}{3}$ of this number is divided by 3, it gives a remainder of 1. How many possibilities are there for this number?

- (1) 5
- (2) 2
- (3) 3
- (4) 4

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]

Do not write
in this space

16. Round off the sum of 123 tenths and 456 thousandths to 2 decimal places.

Ans: _____

17. Simplify the following.

$$16a + 7 + 5 - 3a - 10$$

Ans: _____

18. What is the missing decimal in the number pattern below?

60.83 , 60.98 , _____ , 61.28 , 61.43

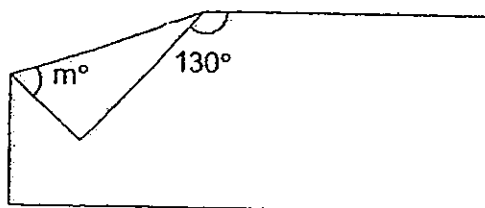
Ans: _____

19. Linda drove from East Town to West Town at an average speed of 78 km/h.
If she took 2 h 30 min to reach West Town, what is the distance between
the 2 towns?

Ans: _____ km

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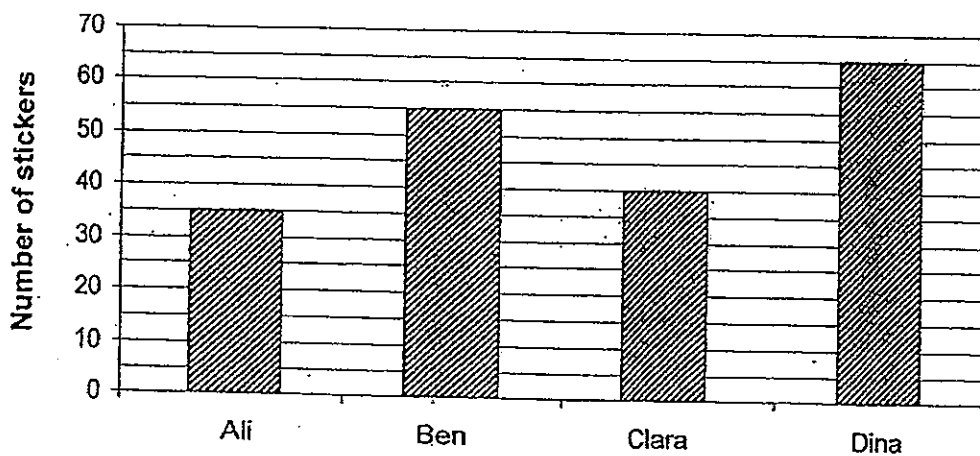
20. In the figure below, a rectangular piece of paper is folded at a corner as shown. Find $\angle m$.



Ans: _____°

21. The bar graph shows the number of stickers each child has. How many stickers must Dina give Ali so that both of them will have the same number of stickers?

Sticker Collection

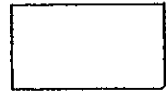


Ans: _____

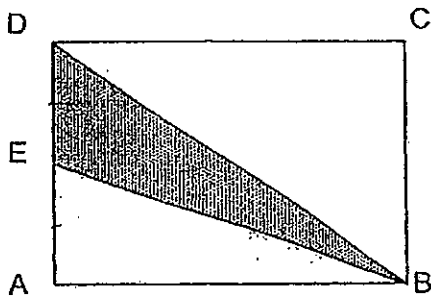
22. A rectangular tank was 23 cm long, 37 cm wide and had a height of 10 cm. Jake managed to fit a maximum of 90 identical cubes into the tank and cover it with a lid. What is the length of one side of each cube?

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in this space

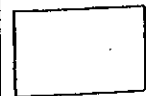
Ans: _____ cm



23. In the figure below, ABCD is a rectangle and $DE = EA$. If the area of triangle BED is 7 cm^2 , find the area of the unshaded part.

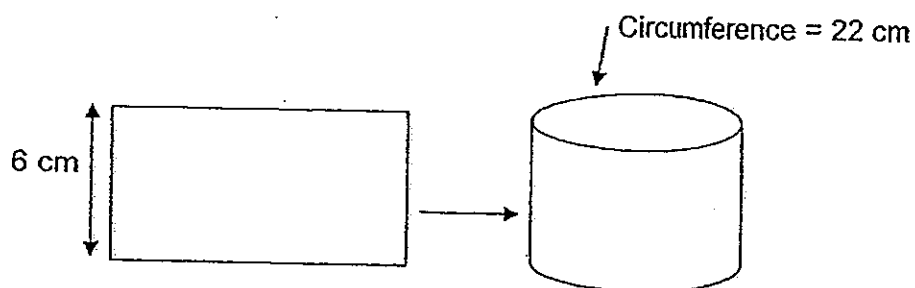


Ans: _____ cm^2



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24. A rectangular piece of paper with breadth 6 cm was rolled up, without overlapping, to form a hollow cylindrical tube as shown below. Find the perimeter of the rectangular piece of paper if the circumference of the tube is 22 cm.



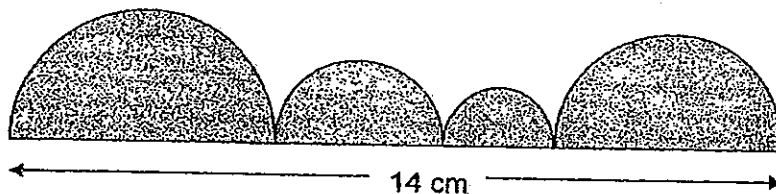
Ans: _____ cm

25. Peter is 1.4 m tall and Gary is 20 cm taller than him. Express Gary's height as a ratio of their total height. Give your answer in the simplest form.

Ans: _____

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 figure below is made up of semicircles. Find the perimeter of the figure below. (Take $\pi = \frac{22}{7}$)



Ans: _____ cm

Do not write
in this space

27. The angles in a triangle are in the ratio 2 : 3 : 4. What is the value of the smallest angle?

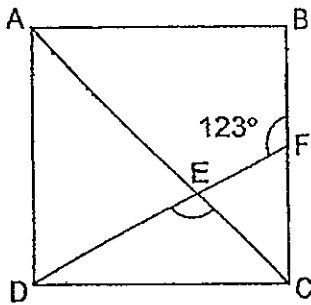
Ans : _____ °

Do not write
in this space

28. Henry placed 14 chairs in a row at equal distances. The distance between the first and fourth chair was 12m. What was the distance between the 4th chair and the 14th chair?

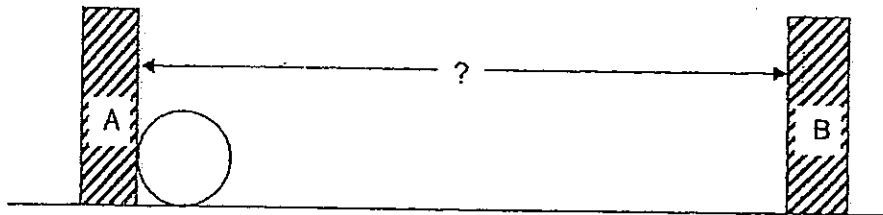
Ans : _____ m

29. ABCD is a square and AC is the diagonal of the square. DF is a straight line and $\angle BFE$ is 123° . Find $\angle CED$.



Ans : _____ °

30. A wheel, with radius 10 cm, made exactly 2 complete revolutions between wall A and wall B. Find the distance between the 2 walls.
(Take $\pi = 3.14$)



Do not write
in this space

Ans: _____ cm

END OF PAPER



NAN HUA PRIMARY SCHOOL
PRELIMINARY EXAMINATION – 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
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Name : _____ ()

Class : 6 _____

Date : 27 Aug 2013

Parent's Signature : _____

Paper 2 (60 marks)

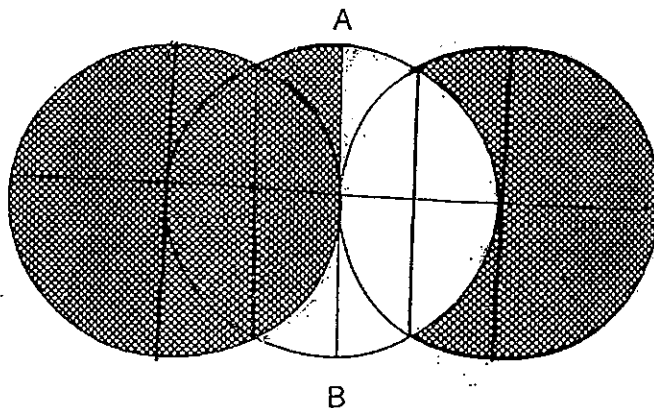
Questions 1 to 5 carry 2 marks each. Show your workings clearly in the space below it and write your answer in the space provided. Give your answers in the units stated.

1. Fred and Gary had a total of \$1.40. Gary and Harry had a total of \$1.50. Harry and Fred had a total of \$1.30. How much did the three boys have altogether?

Do not write
in this space

Ans: \$ _____

2. The figure below shows 3 identical overlapping circles. The middle circle touches the center of the other 2 circles. Line AB is the diameter of the middle circle. What fraction of the figure is **unshaded**?



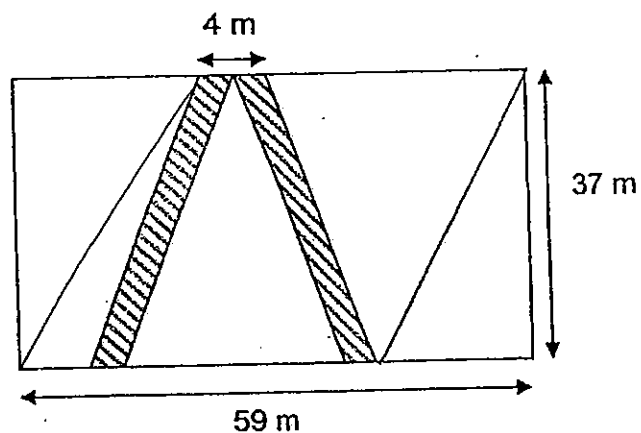
Ans: _____

3. Alan and Bala shared \$ $2n$. Bala had \$12 more than Alan.
How much did Alan have in terms of n ?

Do not write
in this space

Ans : \$ _____

4. The figure below shows a triangular pond in a park with pavements on two of its sides. The total width of the pavements is 4 m. The length of the park is 59 m and its breadth is 37 m. What is the total area of the two paths?



Ans: _____ m^2

5. Box A is $\frac{2}{3}$ as heavy as Box B. Box B is $\frac{4}{7}$ as heavy as Box C.
Find the ratio of the mass of Box C to the mass of Box A.

Do not write
in this space

Ans : _____



For each question from 6 to 18, show your workings clearly in the space below it and write your answer in the space provided. The number of marks available is shown in brackets [] at the end of each question or part-question. Remember to include the units wherever possible.

6. Mr Heng gave 3 sweets to each boy and 4 sweets to each girl in his class. $\frac{3}{5}$ of the pupils in the class were boys. Mr Heng gave out a total of 153 sweets, how many girls were there in the class?

Do not write
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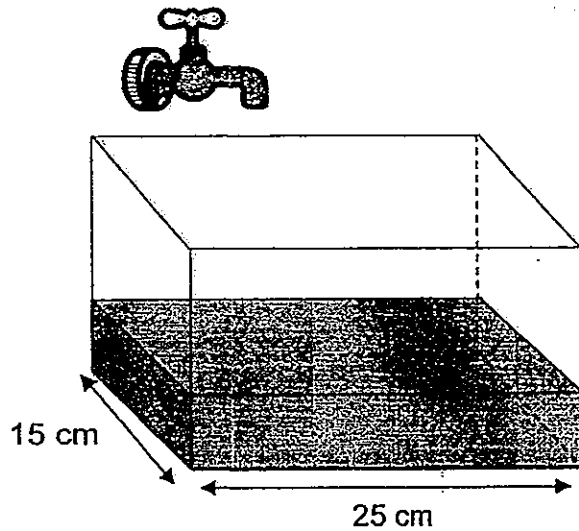
Ans: _____ [3]

7. Ali and Paul walked from Town X to Town Y at 6 km/h and 4 km/h respectively. Ali left Town X at 9.15 a.m. and arrived at Town Y at 10.30 a.m. When Ali arrived at Town Y, Paul was 3.1 km away from Town Y. What time did Paul leave Town X?

Ans: _____ [3]

8. A tank was $\frac{1}{4}$ filled with water. Joseph turned on the tap and let water flow into the tank at a rate of 950 cm^3 per minute. After 6 minutes, he turned off the tap but 300 cm^3 of water had overflowed. Find the height of the tank.

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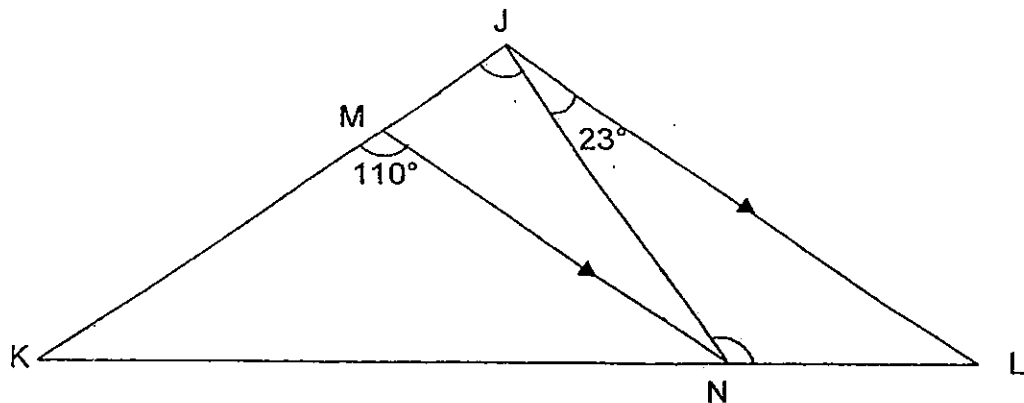
Ans: _____ [3]



9. In the diagram below, KL and KJ are straight lines, MKN is an isosceles triangle and JL is parallel to MN.

Find

- (a) $\angle KJN$
(b) $\angle JNL$



Do not write
in this space

Ans: (a) _____ [1]

(b) _____ [2]



10. The average score in a test of a class of 40 pupils was 86.5. It was later discovered that the score of one of the pupil was wrongly recorded as 68. After correcting his score, the average score of the class increased to 87.
What was the actual score of this pupil?

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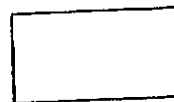
Ans: _____ [3]

11. Construct a triangle ABC such that $\angle CAB = 65^\circ$ and CA is 6 cm.
Measure the length of BC.
Give your answer in centimeters correct to 1 decimal place.
Label your triangle clearly.

Do not write
in this space

A ————— B

Ans: _____ [3]



12. Meiling put $\frac{2}{7}$ of her stamps and an additional 4 in an album.

She then put $\frac{1}{2}$ of the remaining stamps and an additional 5 in another album. She gave the last 38 stamps to her cousin. How many stamps did Meiling have at first?

Do not write
in this space

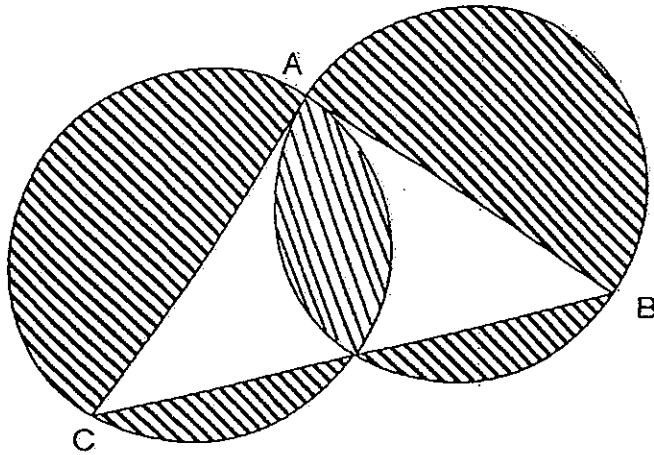
Ans: _____ [4]

13. There were a total of 680 yellow and blue marbles in a jar. When Calvin decreased the number of yellow marbles by 387 and increased the number of blue marbles by 50%, the total number of marbles in the jar became 378.
What percentage of the marbles in the jar was blue at first?

Do not write
in this space

Ans: _____ [4]

14. The figure below is made up of two identical circles with radius 14 cm each and a right-angled triangle ABC. Line AB and line AC are the diameters of the circles. What is the total area of the shaded parts?
(Take $\pi = \frac{22}{7}$).



Do not write
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Ans: _____ [4]



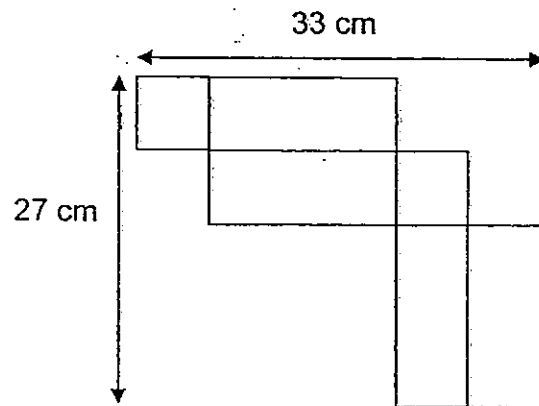
15. A faulty weighing scale reads a certain reading even when nothing was placed on it. A box which contained 18 identical books measured 55.052 kg on the faulty weighing scale. After 8 books were removed from the box, the weighing scale showed a reading of 32.78 kg. The actual mass of each book was 0.6 times the actual mass of the box. What would the faulty weighing scale read when nothing was placed on it?

Do not write
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Ans: _____ [5]



16. The figure below shows the net of a rectangular tank with a square base. David poured some water into the tank till a height of 8 cm. How much more water is needed to fill the tank to its brim?



Do not write
in this space

Ans: _____ [5]



17. Mrs Ling bought some scarves and dresses from a wholesale seller for \$4650. She paid \$150 less for the scarves than the dresses. Each dress cost \$14 more than each scarf. The number of dresses bought was $\frac{3}{5}$ of the number of scarves bought. How many scarves did Mrs Ling buy?

Do not write
in this space

Ans: _____ [5]



18. Mrs Lim is 40 years old and her son is twice her daughter's age. Mrs Lim will be thrice her son's age when her daughter is 12 years old. How old will Mrs Lim be when her 2 children's combined age equals to her age?

Do not write
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Ans: _____ [5]

End-of-Paper

Answer Key

EXAM PAPER 2013

SCHOOL : NAN HUA PRIMARY SCHOOL

LEVEL : PRIMARY 6

SUBJECT : MATHS

TERM : SA2

Booklet A

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15	Q16
2	3	3	3	3	4	3	2	4	3	2	4	2	3	2	

16) 12.76

17) $13A+2$

18) 61.13

19) 195km

20) 65°

21) 15

22) 4cm

23) 21cm^2

24) 56cm

25) 8:15

26) 36cm

27) 40°

28) 40m

29) 102°

30) 145.6cm

Paper 2

1) $1.4+1.5+1.3=4.2$

$4.2 \div 2 = 2.10$

2) $4/16 = \frac{1}{4}$

3) $(2n-12)/2$

4) $59-4=55$

$55 \times 37 = 2035$

$59 \times 37 - 2035 = 148$

5) A:B:C

2:3

4:7

8:12:21

Ans: 21:8

6) B : G

3 : 2

9 : 8

9+8=17

153÷17=9

1u----9

8u----9x7=72

72÷4=18

7)

$$6 \times 1 \frac{15}{60} = 7.50$$

$$7.5 - 3.1 = 4.4$$

$$4.4 \div 4 = 1.1$$

$$1 \frac{1}{10} \text{ hr} = 1 \text{ h } 60 \text{ min}$$

9.24am

$$8) 950 \times 6 = 5700$$

$$5700 - 300 = 5400$$

$$5400 \div 3 \times 4 = 7200$$

$$7200 \div 25 \div 15 = 19.2$$

$$9) (180 - 110) \div 2 = 35$$

$$180 - 110 = 70$$

$$180 - 70 - 23 = 87$$

$$180 - 35 - 23 = 122$$

$$10) 86.5 \times 40 = 3460$$

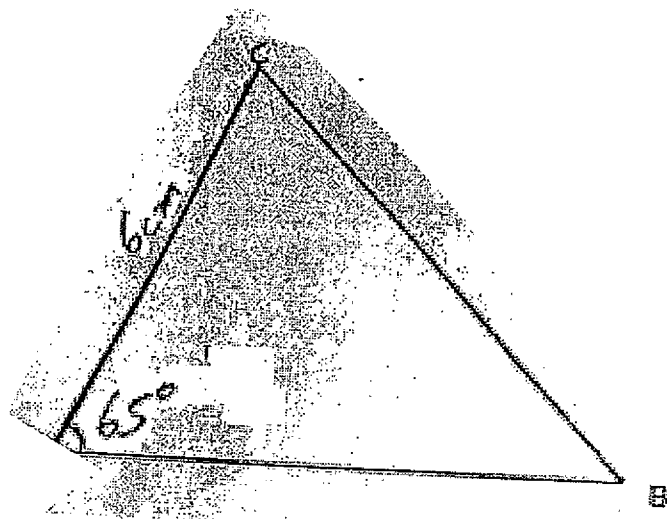
$$87 \times 40 = 3480$$

$$3480 - 3460 = 20$$

$$68 + 20 = 88$$

11). \longrightarrow

(11)



$$12) 38+5=43$$

$$43 \times 2 = 86$$

$$86+4=90$$

$$90 \div 5 \times 7 = 126$$

$$13) 680-387=293$$

$$378-293=85$$

$$85 \times 2 = 170$$

$$680-170=510$$

$$B : Y$$

$$170 : 510$$

$$+85 \quad -387$$

$$255 : 123$$

$$170/680 \times 100\% = 25\%$$

$$14) 22/7 \times 14 \times 14 = 616$$

$$616 \times 2 = 1232$$

$$\frac{1}{2} \times 28 \times 28 = 392$$

$$1232-392=840\text{cm}^2$$

$$15) 55.052-32.78=22.272$$

$$22.272 \div 8 = 2.784$$

$$2.784 \div 6 \times 10 = 464$$

$$2.784 \times 18 = 50.112$$

$$50.112+4.64=54.752$$

$$55.052-54.752=0.3$$

$$16) 33-27=6$$

$$6 \times 3 = 18$$

$$33-18=15$$

$$15-8=7$$

$$6 \times 6 \times 7 = 252$$

$$17) D : S$$

$$3 : 5$$

$$2400 : 2250$$

$$2400 \div 3 = 800$$

$$2250 \div 5 = 450$$

$$1\text{u of dress} \text{ --- } 800$$

1u of scarves -450

$$800-450=350$$

$$350 \div 14 = 25$$

$$1u \text{ --- } 25$$

$$5u - 25 \times 5 = 125$$

18)

$$1p - 1u \text{ ---- } 12$$

$$1p \text{ --- } 12 + 1u$$

$$2p \text{ ---- } 24 + 2u$$

$$40-24=16$$

$$16 \div 4 = 4$$

$$1u - 4$$

$$2u - 8$$

$$12+4=16$$

$$48-28=20$$

$$48+20=68$$

