

Nan Hua Primary School  
Mid-Year Examination – 2004  
Mathematics  
Primary-6 EM1/2

BOOKLET A

Name : \_\_\_\_\_ ( )

Class : Pr 6 \_\_\_\_\_

Date : 11 May 2004

Duration : 2h 15min

Section	Maximum Marks	Actual Marks
A	25	
B + C	75	
TOTAL	100	

Section A ( 25 marks )

\_\_\_\_\_ (Parent's signature)

Questions 1 to 5 carry 1 mark each.

Questions 6 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 correct oval on the Optical Answer Sheet (OAS).

1. What is the sum of 12 tens and 12 tenths?

- (1) 12.12
- (2) 13.2
- (3) 120.12
- (4) 121.2

2.  $\frac{5}{7} \div 20$  has the same value as \_\_\_\_\_

- (1)  $\frac{5}{7} \times 7$
- (2)  $\frac{1}{7} \times 4$
- (3)  $\frac{1}{7} \div 4$
- (4)  $\frac{5}{7} \div 4$

3.  $1 + 2 + 3 + 4 + 5 + \dots + 45 + 46 + 47$

When the sequence of whole numbers are added up, what is the digit in the ones place of this total?

- (1) 6
- (2) 7
- (3) 8
- (4) 9

4. Rahim and Ahmad shared \$96. Rahim received \$16 more than Ahmad. Find the ratio of Ahmad's share to Rahim's share.

- (1) 5 : 2
- (2) 7 : 5
- (3) 5 : 12
- (4) 5 : 7

5. Simplify  $15p + 4 - 1 - 8p + 2$ .

- (1)  $23p + 5$
- (2)  $23p + 1$
- (3)  $7p + 5$
- (4)  $7p + 1$

6. Which of the following has the biggest value?

- (1)  $\frac{7}{10} \times 5$
- (2)  $\frac{4}{5} \times 5$
- (3)  $\frac{6}{15} \times 5$
- (4)  $\frac{1}{2} \times 5$

7. Eric had dinner with 7 of his friends. They paid a total of \$159 for the dinner. Eric paid \$3.00 more than the average amount paid by the others. How much did Eric pay?

- (1) \$19.50
- (2) \$19.90
- (3) \$20.25
- (4) \$22.50

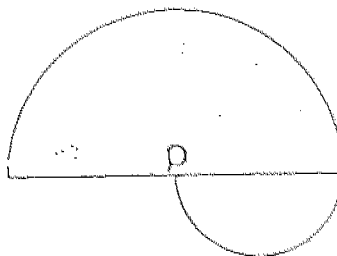
( )

8. After using 30% of the rice, Susan gave 72 kg of rice to Maria. How many kilograms of rice did she use if she had 58% of the rice left?

- (1) 168 kg
- (2) 180 kg
- (3) 348 kg
- (4) 420 kg

( )

9. The figure is made up of two semicircles.  $O$  is the centre of the larger semicircle of radius 12 cm. (Leave your answer in terms of  $\pi$ ).



The area of the figure is \_\_\_\_\_  $\text{cm}^2$ .

- (1)  $12\pi$
- (2)  $40\pi$
- (3)  $60\pi$
- (4)  $90\pi$

( )

10. The length of a rectangle is  $(3 - b)$  cm. If its breadth is  $2b$  cm, what is its perimeter?

- (1)  $(3 + b)$  cm
- (2)  $(3 - b)$  cm
- (3)  $(6 + 2b)$  cm
- (4)  $(6 - 2b)$  cm

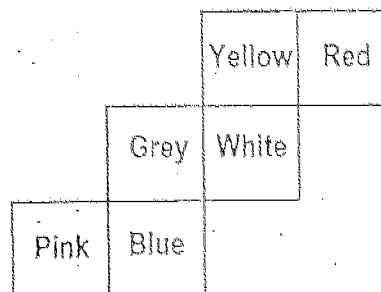
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11. Doreen, Eva and Faridah shared a sum of money in the ratio 5 : 9 : 7. When Eva spent \$24 of her money, she had  $\frac{5}{9}$  of her money left. What was the original sum of money shared among the three girls?

- (1) \$54
- (2) \$72
- (3) \$102
- (4) \$126

( )

12. The diagram below shows the net of a cube. If it is folded to form a cube, which face will be opposite to the face marked *RED*?



- (1) BLUE
- (2) PINK
- (3) WHITE
- (4) GREY

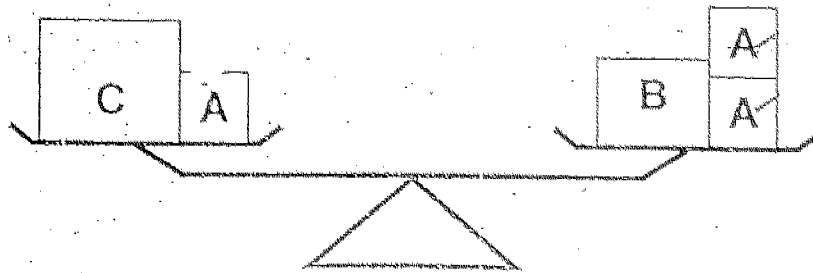
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13. Reuben saves 20% of his pocket money daily. If his pocket money increases by 10%, his savings will increase by 10 cents. Find the amount of his daily pocket money before the increase.

- (1) \$0.50
- (2) \$1.00
- (3) \$5.00
- (4) \$10.00

( )

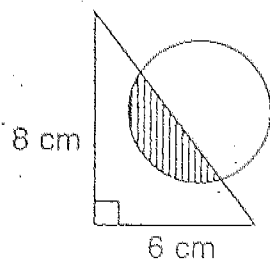
14. The figure shows three types of parcels on a balance scale.



The total weight of the five parcels is 22 kg. If Parcel C weighs 8 kg, What is the weight of Parcel B?

- (1) 3.5 kg
- (2) 4.4 kg
- (3) 5 kg
- (4) 6 kg

- 15.



The ratio of the shaded part of the triangle to the unshaded part of the triangle is 1 : 3. If the ratio of the unshaded part of the circle to the shaded part of the circle is 2 : 1, find the total area of the unshaded part of the figure.

- (1)  $20 \text{ cm}^2$
- (2)  $30 \text{ cm}^2$
- (3)  $36 \text{ cm}^2$
- (4)  $60 \text{ cm}^2$

( )

Nan Hua Primary School  
Mid-Year Examination – 2004

BOOKLET B

Name: \_\_\_\_\_ ( )

Class: Primary 6 \_\_\_\_\_

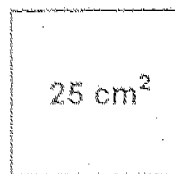
Section B ( 20 marks )

Questions 16 to 35 carry 1 mark each. Write your answers in the spaces provided.  
Give your answers in the units stated.

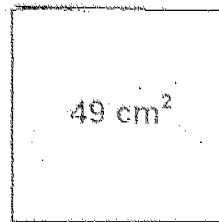
16. Express  $\frac{5}{8}$  kg in grams.

Answer: \_\_\_\_\_ grams

17.



Square A



Square B

What is the ratio of the length of Square A to the length of Square B? (Express your answer in the simplest form.)

Answer: \_\_\_\_\_

18. Mr Tay packed some mangoes into bags of 7. After packing them into 14 bags, he had 4 mangoes left. How many mangoes did he have altogether?

Answer: \_\_\_\_\_ mangoes

19. Nancy spent \$3 on a file and \$2y more on a book. How much did she spend altogether? (Express your answer in terms of y.)

Answer: \$ \_\_\_\_\_

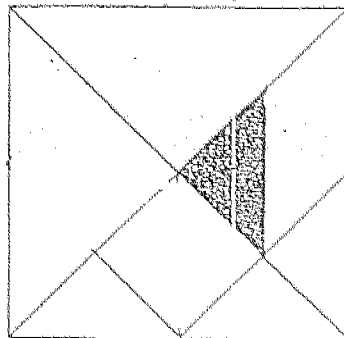
20. How many eighths are there in  $3\frac{3}{4}$ ?

Answer: \_\_\_\_\_ eighths

21. Express 48 minutes as a percentage of 2 hours.

Answer: \_\_\_\_\_ %

22. What fraction of the square is shaded?



Answer: \_\_\_\_\_

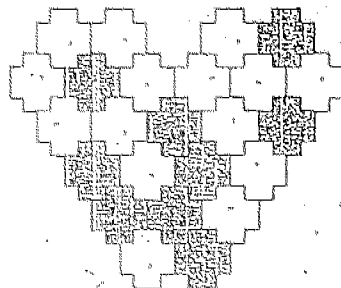
23. Rachel can run a distance of 250 metres in 40 seconds. Mabel can run a distance of 210 metres in 35 seconds. Who is the faster runner?

Answer: \_\_\_\_\_

24. The average of 4 numbers is  $24k$ . If the total of 3 numbers is  $75k$ , what is the fourth number? (Express your answer in terms of  $k$ .)

Answer: \_\_\_\_\_

25. Express the number of shaded parts as a percentage of the total number of parts.



Answer: \_\_\_\_\_%

26. A tank, in the shape of a cube of 9 m, was filled with  $405 \text{ m}^3$  of water. If more water was poured into the tank to fill it to its brim, what is the increase in height of the water in the tank?

Answer: \_\_\_\_\_ m



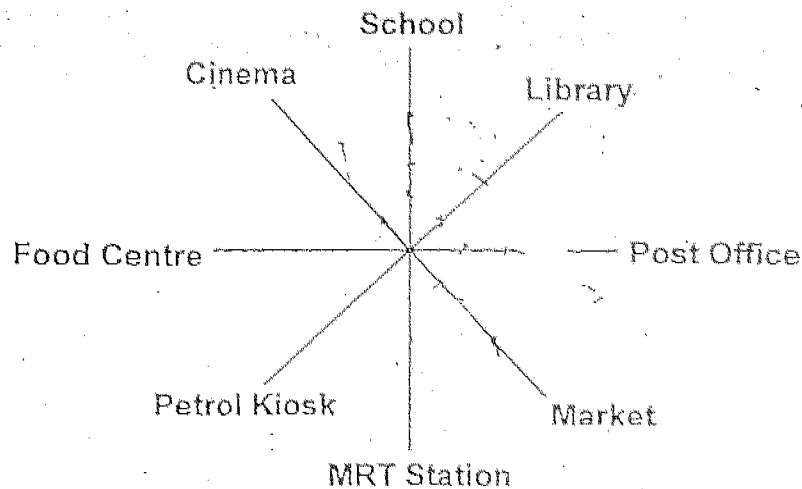
27. Write down the fraction exactly half-way between  $\frac{5}{8}$  and  $\frac{3}{4}$ , in its simplest form.

Answer: \_\_\_\_\_

28. Samuel is 17 years older than Daniel. What will their total age be in 5 years' time if Daniel is 11 years old now?

Answer: \_\_\_\_\_ years

29.



Sally is facing the cinema. She made one clockwise turn and found herself facing the MRT Station. How many degrees was the turn?

Answer: \_\_\_\_\_°

30. A clock was set at the correct time at 7.30 pm on Sunday. If it gains 14 minutes daily, what would be the time shown on the clock on the following Sunday at 7.30 pm?

Answer: \_\_\_\_\_ p.m.

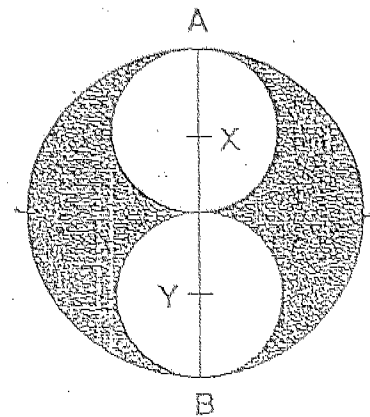
31. When a circular wheel makes 28 revolutions, it covers a distance of 224 m. How many revolutions will it make to cover a distance of 72 m?

Answer: \_\_\_\_\_ revolutions

32. Ibrahim had 280 peaches. He found that 3 out of every 20 peaches were rotten and decided to throw them away. How many peaches had he left?

Answer: \_\_\_\_\_ peaches

33. The figure shows two similar circles within a big circle. The line segment AB is the diameter of the big circle. Points X and Y are the centres of the small circles. What is the ratio of the area of the shaded part to the area of the big circle?



Answer: \_\_\_\_\_

34. If 80% of Fiona's savings is 60% of Jessie's salary, express Fiona's savings as a fraction of Jessie's salary. (Express your answer in the simplest form.)

Answer: \_\_\_\_\_

35.

A	B	C	D	E	F	G
	2		13		4	
8		7		6		5
	9		10		11	
						12

Study the pattern carefully. If the pattern continues, under which letter would the number 199 appear?

Answer: Letter \_\_\_\_\_

Section C ( 55 marks )

For questions 36 to 50, show your working clearly in the space below 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.

36. The hour hand of a clock is 7 cm long. How far does the tip of the hour hand travel in a 24-hour period? ( Take  $\pi = \frac{22}{7}$  )

Answer: \_\_\_\_\_ [2]

37. The table below shows the rates of charges for local calls made.

First 100 units	Free
Next 500 units	\$10.50
Subsequent units	5 cents per unit

If Raju made a total of 650 units of local calls, how much did he have to pay?

Answer: \_\_\_\_\_ [3]

38. 3 children, Alice, Benny and Colin shared some marbles in the ratio of 2 : 3 : 5. If their average number is ~~72~~ <sup>80</sup> marbles,

- a) what is the total number of marbles?
- b) how many marbles would ~~B~~ get?

Answer: \_\_\_\_\_ (2)

39. Tom typed a 40-page assignment. The first 30 pages had an average of 300 words each. The rest of the pages had an average of 220 words each. Tom typed the first 30 pages at a rate of 60 words per minute. He typed the remaining pages at a rate of 40 words per minute. How long did Tom take to type the 40-page assignment? Give your answer in hours and minutes.

Answer: \_\_\_\_\_ [3]

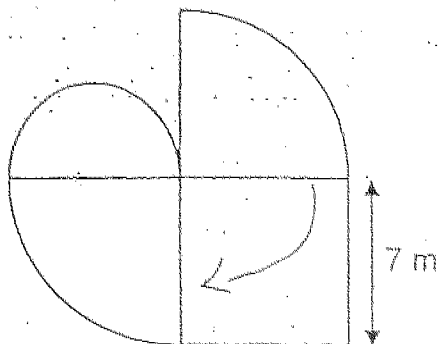
40. There are 720 boys and girls in a library. 30% of the children are boys. After some boys left the library, the number of boys decreased to 25%. How many boys left the library?

Answer: \_\_\_\_\_ [3]

41. Shane paid \$140 for 10 towels and 6 mugs. Each towel cost five times as much as a mug. Find the difference in cost between a towel and a mug.

Answer: \_\_\_\_\_ [3]

42. The figure below is made up of a square with side 7 m, 2 similar quadrants and a semi-circle. Find its perimeter. (Take  $\pi = \frac{22}{7}$ )



Answer: \_\_\_\_\_ [3]

43. James had a box of marbles. He sold  $\frac{2}{5}$  of them to Ravi and gave 16 marbles to Roslan. He had  $\frac{1}{3}$  of the original number of marbles left. He kept the remaining marbles in containers, putting 3 marbles in each container.

- (a) How many marbles did James have at first?
- (b) What was the maximum number of containers James would need to keep all the remaining marbles?

Answer: (a) \_\_\_\_\_ [2]

(b) \_\_\_\_\_



44. A tin weighs 150 g when it is empty. The tin contains 2 types of biscuits: chocolate chips biscuits which weigh 6 g each and cheese biscuits which weigh 4 g each. There are 770 biscuits in the tin. The ratio of the number of chocolate chips biscuits to the number of cheese biscuits is 3 : 2. Find the weight of the tin of biscuits. Give your answer in kilograms.

Answer: \_\_\_\_\_ [4]

45. Two taps were turned on at the same time to fill a rectangular tank, 25 cm long and 15 cm wide. If each tap flowed at a rate of 550 ml per second, and it took 3 seconds to fill the tank completely with water, what is the height of the tank?

Answer: \_\_\_\_\_ [4]

46. Jacky spent all her money on 3 books and 8 pens. If she bought 1 pen and 4 books, she would save \$0.50. Each pen cost \$2.50 less than each book. What fraction of Jacky's money was spent on pens?

Answer: \_\_\_\_\_ [4]

47. Mr Brown used 3 bottles of syrup to make drinks. Each bottle contained 4 litres of syrup. He added 4 litres of water to every litre of syrup and sold the drinks in packets of 600 ml each. If a total sum of \$240 was collected from selling all the drinks, how much did he sell each packet of drinks for?

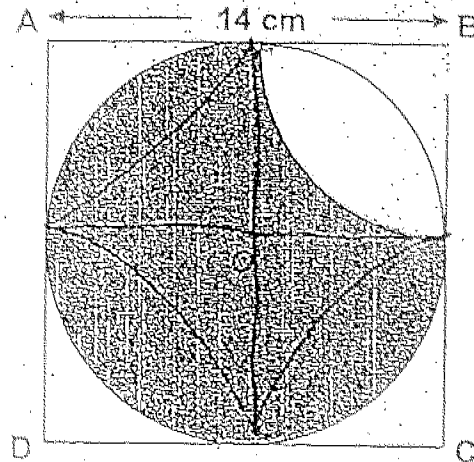
Answer: \_\_\_\_\_ [4]

48. There were 288 guests at a party. The ratio of the number of Singaporeans to the number of Japanese to the number of Australians was 4 : 5 : 3. When 81 more guests joined the party, the number of Singaporeans increased by 25% and the number of Japanese increased by 40%. What was the percentage increase in the number of Australians?

Answer: \_\_\_\_\_ [5]

49. ABCD is a square of side 14 cm. A circle with centre  $O$  touches the sides of this square as shown in the figure below. Find the area of the shaded part.

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



Answer: \_\_\_\_\_ [5]

50. Alex and Ben started cycling at a uniform speed from the same point in opposite directions round a 5-km track. Alex took 15 minutes to complete each round. The two cyclists met each other after every 12 minutes.
- (a) What was Alex's cycling speed?
  - (b) At what speed was Ben travelling?
  - (c) How many rounds would Alex have completed by the time he first met Ben again at the starting point?

Answer: \_\_\_\_\_ (2)

~ End of Paper ~

☺ Please check your work thoroughly ☺

NAN HUA PRIMARY SCHOOL  
MID YEAR EXAMINATION - 2004  
MATHEMATICS  
PRIMARY 6

S 41

- |                     |                                   |
|---------------------|-----------------------------------|
| 1) 4                | 28) 49                            |
| 2) 3                | 29) 225                           |
| 3) 3                | 30) 9.08 p.m.                     |
| 4) 4                | 31) 9                             |
| 5) 3                | 32) 238                           |
| 6) 2                | 33) 1 : 2                         |
| 7) 4                | 34) $\frac{3}{4}$                 |
| 8) 2                | 35) D                             |
| 9) 4                | 36) 88 cm                         |
| 10) 3               | 37) \$ 13                         |
| 11) 4               | 38) a) 240                        |
| 12) 4               | b) 72                             |
| 13) 3               | 39) 3 h 25 min                    |
| 14) 3               | 40) 48                            |
| 15) 2               | 41) \$ 10.00                      |
| 16) 625             | 42) 54 m                          |
| 17) 5 : 7           | 43) a) 60 marbles                 |
| 18) 102             | b) 7                              |
| 19) $(6 + 2y)$      | 44) 4.154 kg                      |
| 20) 30              | 45) 8.8 cm                        |
| 21) 40              | 46) $\frac{4}{13}$                |
| 22) $\frac{1}{16}$  | 47) \$ 2.40                       |
| 23) Rachel          | 48) $12\frac{1}{2}\%$             |
| 24) 21K             | 49) $126 \text{ cm}^2$            |
| 25) 37.5            | 50) a) $\frac{1}{3} \text{ km/h}$ |
| 26) 4 m             | b) 5 km/h                         |
| 27) $\frac{11}{16}$ | c) 4 rounds                       |