ANGLO-CHINESE SCHOOL
(PRIMARY)
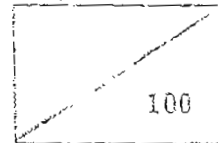
MID-YEAR EXAMINATION 2004

MATHEMATICS

BOOKLET A

Name: _____ (   )

Class: Primary 6 __ _

100

Duration of paper: 2 h 15 min

Parent's Signature

Section A
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.

1. If $a = 7$, find the value of $5a - 20 + 8$.

   (1) 15
   (2) 23
   (3) 43
   (4) 63

2. Express the ratio of 20 cm to 5 m in the simplest form.

   (1) 1 : 25
   (2) 4 : 1
   (3) 2 : 5
   (4) 25 : 1

3. If 6 similar exercise books weigh $\frac{1}{2}$ kg, what is the weight of 3 such exercise books?

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

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

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

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

4. After travelling for 84 km, a car has used up 25% of the fuel. How far can the car travel with the remaining fuel?

   (1) 84 km
   (2) 168 km
   (3) 252 km
   (4) 336 km

5. Find the volume of a cube whose base area is 25 cm^2.

    (1) 125 cm^3
    (2) 216 cm^3
    (3) 343 cm^3
    (4) 512 cm^3

6. In a school, there were 2500 pupils. The number of girls was 500 more than the number of boys. How many percent more girls than boys were there?

    (1) 20 %

    (2) 25 %

    (3) $33\frac{1}{3}$ %

    (4) 50 %

7. Mr Tay bought a van for $32 000 at a discount of 20%. What was the original price of the van?

    (1) $25 600
    (2) $38 400
    (3) $40 000
    (4) $50 000

8. A car travelled 80 km/h for 3 hours and 65 km/h for 2 hours. What was the average speed of the car for the whole journey?

    (1) 29 km/h
    (2) 72.5 km/h
    (3) 74 km/h
    (4) 185 km/h

9. There are 40 pupils in a class. $\frac{1}{5}$ of the pupils are girls. $\frac{1}{4}$ of the boys wear spectacles. How many boys do not wear spectacles?

    (1) 8
    (2) 10
    (3) 24
    (4) 32

10 The table below shows the parking charges at a carpark. Serene parked her car from 1.50 p.m to 4.15p.m. How much did she have to pay?

Parking Charges	$
1ˢᵗ hour	1.20
Every additional half hour or part thereof	0.70

(1) $1.90
(2) $3.60
(3) $3.30
(4) $4.00

11. The figure below is made up of 3 semi-circles, each of radius 14 cm. Find the perimeter of the figure. (Take $\pi = \dfrac{22}{7}$)
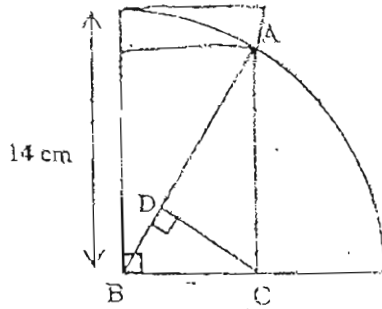

(1) 88 cm
(2) 132 cm
(3) 174 cm
(4) 216 cm

12. Mrs Lee is twice as old as her son who is 18 years old now. What will be their total age in 9 years' time?

(1) 45
(2) 54
(3) 63
(4) 72

13. The figure below shows a quarter circle of radius 14 cm. Given that the area of triangle ABC is 56 cm^2, find the length of CD. (Take $\pi = \frac{22}{7}$.)

(1) 4 cm
(2) 8 cm
(3) 12 cm
(4) 16 cm

14. 2 similar tins and 7 similar bottles can hold 234 l of oil. If each tin can hold thrice as much oil as each bottle, how many litres of oil can each tin hold?

(1) 18 l
(2) 26 l
(3) 54 l
(4) 78 l

15. Andy has $\frac{5}{8}$ as much money as Ben. Ben has $\frac{2}{3}$ as much money as Carl. Andy has $63 less than Carl. How much money does Ben have?

(1) $68
(2) $70
(3) $72
(4) $74

Section B

Each question from 16 to 35 carries 1 mark. Write your answers in the spaces provided. Give your answers in the units stated.
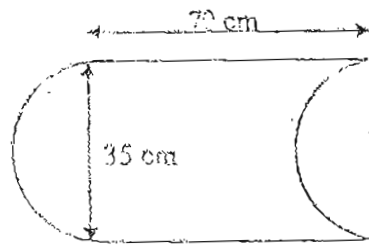
16. Johnson has $1\frac{1}{2}$ times as much money as Benson. What is the ratio of Johnson's money to Benson's money?

Ans : _____

17. There are 5 teams in a tournament. Each team must play against each other once. How many matches are there in the tournament?

Ans : _____

18. The figure below is made up of 2 straight lines and 2 equal semi-circles. Find its area. (Take $\pi = \frac{22}{7}$)

Ans : _____ cm^2

19. The average of 12 numbers is 9. If the sum of the first 11 numbers is 89, find the 12th number.

Ans : _____

20. A stick is 1 m 8 cm long. A ruler is 0.3 m long. A pencil is 12 cm long. What is the ratio of the length of the stick to the length of ruler and to the length of pencil?

Ans : _____

21. If $5k$ packs of cards cost $15, what is the cost of $3k$ packs of cards?

Ans : $ _____

22. There are $\frac{2}{3}$ as many boys as girls in a school. What fraction of the pupils in the school are boys?

Ans : _____

23. Tim has $20. Peter has $50. What percentage of Tim's money is Peter's money?

Ans : _____ %

24. James read from page 12 to page 35 of a book. How many pages did he read?

Ans : _____

25. 4 girls shared a quarter pizza. What fraction of the pizza did each girl get?

Ans : _____

26. Fill in any two operational signs (+, −, x or ÷) to make the statement true.

$$32 \underline{\quad}_{(i)} 4 \underline{\quad}_{(ii)} 2 = 16$$

Ans : _____ & _____
(i)   (ii)

27. Complete the pattern.

0, 1, 1, 2, 3, _____, 8, 13

Ans : _____ _____

28. What is the maximum number of 3-cm cubes that can fit into a rectangular box measuring 20 cm by 14 cm by 12 cm?

Ans : _____

29. Andy took 20 minutes to travel from his home to his office. If he drove at an average speed of 60 km/h, how far was his office from his home?

Ans : _____ km

30. A bus uses 25 ℓ of petrol to travel 200 km. How much petrol does it use to travel a distance of 500 km?

Ans : _____ ℓ

31. The price of a shirt was $120. If the price of a bag was 20 % more than the shirt, how much does the bag cost?

Ans : $ _____

32. What is the area of a circle of diameter 42 cm? (Take $\pi = \frac{22}{7}$)

Ans : _____ cm^2

33. There is an empty tank measuring 50 cm by 30 cm by 25 cm. After 15 000 cm^3 of water is poured into the tank, find the height of water level in the tank.

Ans : _____ cm

34. The total number of pupils attending the National Day Parade Preview at the National Stadium was 55 000 when rounded off to the nearest thousand. What is the greatest possible value of the actual number of pupils present?

Ans . _____

35. Richard has 4 times as much money as Peter. What fraction of Richard's money must be given to Peter so that both have the same amount of money?

Ans : _____

For each question from 36 to 50, show your working clearly in the space below it and write your answer in the answer space provided.

The number of marks available is shown in brackets [ ] at the end of each question or part-question.

36. Twice a number is greater than $\frac{1}{3}$ of the number by 10m. Find the number.
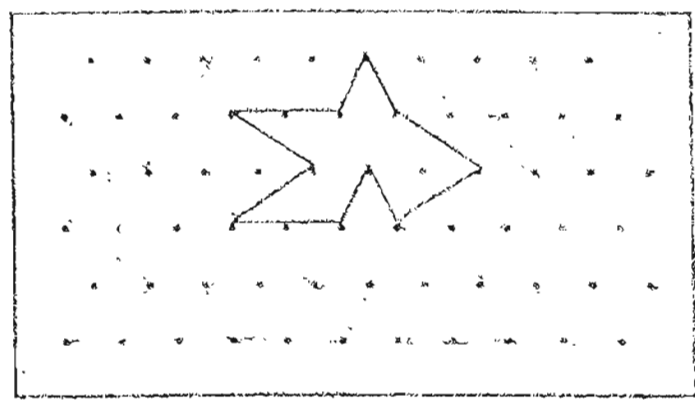
Ans : _____ [2]

37. In the figure below, ABCD is a rectangle. AX=XD and BY=YC. Find the area of the shaded part.
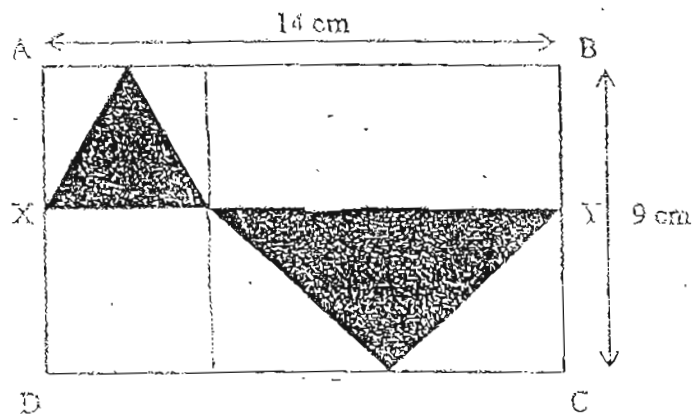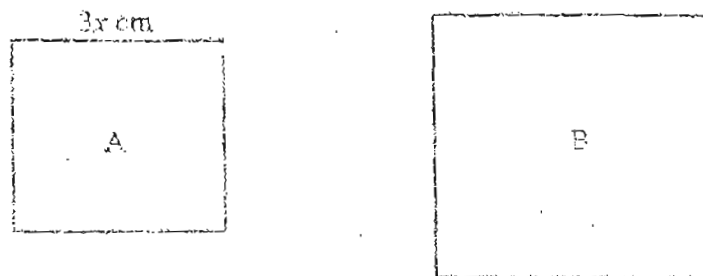

Ans : _____

38. Complete the tessellation by drawing 5 more unit shape around the two shaded unit shapes given. [2]

39. $\frac{2}{5}$ of Alice's money is equal to $\frac{3}{4}$ of Benny's money. If both have $115 altogether, how much does Alice have?

Ans _____ [3]

40.

The ratio of the perimeter of square A to the perimeter of square B is 3 : 5.
Find the area of square B.

Ans : _____ [3]

41. There are 18 beads in the 3 containers, A, B and C altogether. If we move 4 beads from A to B, move 3 beads from B to C, and then move 2 beads from C to A, there will be the same number of beads in each of the container. How many beads are there in container A at first?

Ans : _____ [3]

42. John spent 35% of his money on a camera. Then he spent $\frac{2}{5}$ of the remaining money on a jacket. If he was left with $780, how much did he spend altogether?

Ans : _____ [4]

43. The number of stamps that Mary and Henry had at first was in the ratio 3 : 1. After Mary bought 36 stamps and Henry sold 20 stamps, Mary then had 5 times as many stamps as Henry. How many stamps did Henry have at first?

Ans. _____ [4]

44.   In the figure below, the 5 iron balls in the tank are of the same size. When 3
iron balls are removed from the tank, the water level decreases by 20%. Find
the volume of water in the tank.
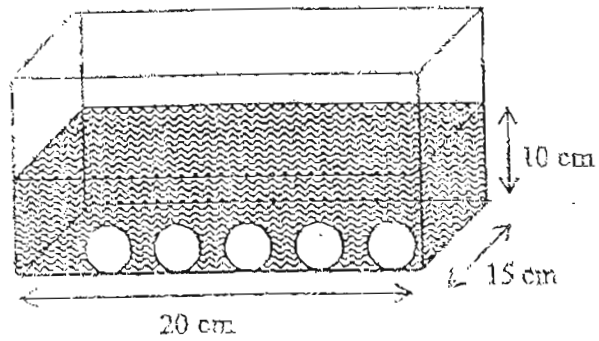
45. Mr Tan bought some apples and oranges. The prices of the fruits were shown below:

Apples	40¢ each
Oranges	50¢ each

The ratio of the number of apples bought to that of the number of oranges bought was 5 : 2. He spent $81 on the apples and oranges. How many apples did he buy?

Ans : _____ [4]

46. At a party, there were 60 men, 54 women and some children. There were 3 times as many women as girls and 5 times as many men as boys.

a) Find the total number of people at the party.

b) If $\frac{1}{4}$ of the men left, how many people remained at the party?

Ans : (a) _____ [3]

(b) _____ [1]

47. The pie chart below shows how Mr and Mrs Tay used their combined monthly income. They spent half of their combined monthly income on Rental, Food and Others.
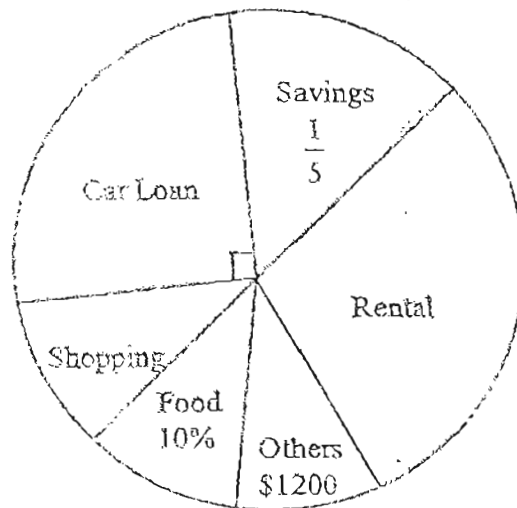
a) If Mr and Mrs Tay spent $600 on shopping each month, what is their combined monthly income?

b) How much did they spend on food each month?

c) What percentage of their monthly income was spend on their rental?

Ans : (a) _____ _____ [2]

(b) _____ _____ [1]

(c) _____ _____ [2]

48. James was driving from Charming Garden to Breezing Park. Halfway, his car passed Peter's car which was traveling at 84 km/h in the opposite direction $1\frac{1}{4}$ hour later, James reached Breezing Park while Peter was still 20 km away from Charming Garden.

a)   What was the distance between Charming Garden and Breezing Park?

b)   What was the average speed that James was travelling at?

Ans : (a) _____ [3]

(b) _____ [2]

49. The figure below shows 2 overlapping circles of radius 20 cm. Points X and Y are centres of the 2 circles respectively. (Take $\pi = 3.14$)
   (a) Find the perimeter of the shaded part.
   (b) Find the area of the shaded part.

Ans : (a) _____ [2]

(b) _____ [1]
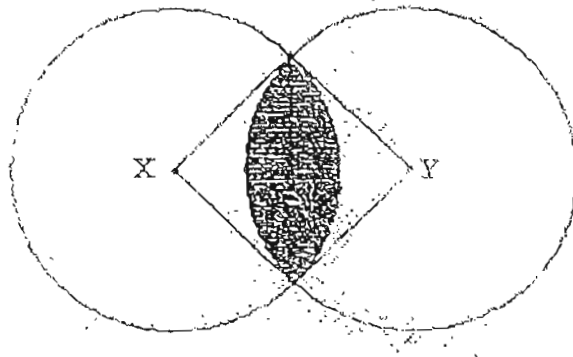
50. The octagons formed are 8-sided figures with all sides having the same length. The figures below show horizontal row of octagons.

1 octagon is formed with 8 matchsticks

2 octagons are formed with 15 matchsticks

3 octagons are formed with 22 matchsticks

a) Complete the following table :

Number of octagons	1	2	3	4	5	.....	8	9
Number of matchsticks	8	15	22			......		

[2]

b) How many matchsticks are needed to form 12 octagons?

c) Find the maximum number of octagons that can be formed in a horizontal row with 106 matchsticks.

Ans : (b) _____ (1)

(c) _____ [2]

1) 2

2) 1

3) 2

4) 3

5) 1

6) 4

7) 3

8) 3

9) 3

10) 3

11) 4

12) 4

13) 2

14) 3

15) 3

16) 3 : 2

17) 10 matches

18) 2450

19) 19

20) 18 : 5 : 2

21) 9

22) 2/5

23) 250

24) 24 pages

25) 1/16

26) $\frac{1}{?}$ x

27) 5

28) 96 cubes

29) 20

30) 62.5

31) 144

32) 1386

33) 10

34) 55499 pupils

35) 3/8

36) 6 m

37) 31.5 cm^2

38)

39) $ 75

40) $(25x^2)$ cm^2

41) 8 beads

42) $ 1220

43) 68 stamps

44) 2000 ml

45) 135 apples

46) a) 144 people

    b) 129 people

47) a) $ 12000

    b) $ 1200

    c) 30%

48) a) 250 km

    b) 100 km/h

49) a) 62.8 cm

    b) 228 cm^2

50) 29   36 57   64

    b) 85 matchsticks

    c) 15 octagons