RED SWASTIKA SCHOOL

RED SWASTIKA SCHOOL

2004 MID-YEAR EXAMINATION

MATHEMATICS

Name : __ _____ (   )

Class : Primary 6 / ___ (EM 1 / 2)

Date   : 11 May 2004

BOOKLET A

15 Questions
25 Marks
Duration of Paper : 2 hours 15 minutes

Note:

1. Do not open this Booklet until you are told to do so.
2. Questions 1 - 15 are to be done on the OAS provided.
3. Read carefully the instructions given at the beginning of each part of the Booklet.
4. Do not waste time. If a question is difficult for you, go on to the next one.
5. Check your answers thoroughly and make sure you attempt every question.

23

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

(25 marks)

1.   Which of the following has the largest value?

(1)   0.75
(2)   0.91
(3)   0.92
(4)   0.199

2.   Express 1250 *ml* as a percentage of 2500 *ml*.

(1)   25%
(2)   50%
(3)   125%
(4)   200%

3.   Which is the likely average speed of a lorry?

(1)   50 km/h
(2)   50 km/min
(3)   50 m/min
(4)   50 m/s

4.   What percentage of 200 is 20?

(1)   10% .
(2)   20%
(3)   0.1%
(4)   0.01%

5.   The circumference of a circle is 44 cm. What is its radius? (Take $\pi = \frac{22}{7}$)

(1)   7 cm
(2)   11 cm
(3)   14 cm
(4)   22 cm

1

6. The area of square A and B are 36 cm^2 and 100 cm^2 respectively. What is the ratio of the perimeter of Square A to the perimeter of Square B?

(1) 9 : 25
(2) 3 : 15
(3) 6 : 20
(4) 3 : 5

7. Mr Tan earns $5x daily. He spends $3 on lunch, $2x on transport and saves the rest of his earnings. How much will he save daily?

(1) $ x
(2) $ (3x + 3)
(3) $ (3x − 3)
(4) $ 6x

8. Ali is 3 years older than Ahmad. Ali is now 17 years old. What was the ratio of Ali's age to Ahmad's age 5 years ago ?

(1) 4 : 3
(2) 12 : 15
(3) 17 : 14
(4) 22 : 19

9. Kelvin had some marbles. He gave half of them to his brother and sold 34% of the remainder to his friends. He had 99 marbles left. How many marbles did Kelvin have at first ?

(1) 180
(2) 249
(3) 285
(4) 300

2 5

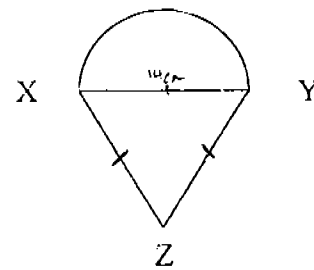25

10. The following figure is not drawn to scale. ABCD and ABEF are parallelograms.

F   E   D   C
 a   100°
        130°
                d

     b   e
A   B
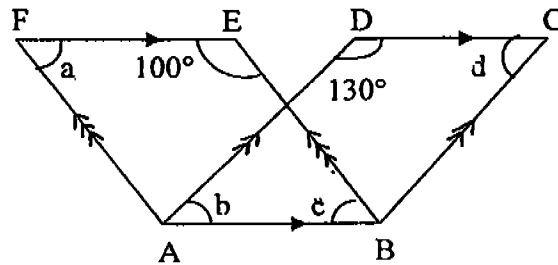
Find the sum of $\angle$ a + $\angle$ b + $\angle$ c + $\angle$ d .
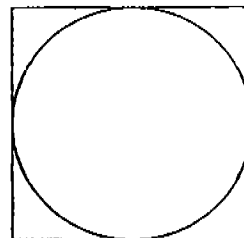
(1) 130°
(2) 230°
(3) 260°
(4) 360°

11. The figure is made up of an isosceles triangle and a semicircle of diameter 14 cm. What is the length of YZ if the perimeter of the figure is 70 cm ? (Take $\pi = \dfrac{22}{7}$)

(1) 8 cm
(2) 12 cm
(3) 18 cm
(4) 24 cm

X   Y

Z

12. The following figure shows a circle enclosed in a square which has a perimeter of 32 cm. What is the radius of the circle?

(1) 6 cm
(2) 8 cm
(3) 3 cm
(4) 4 cm

3

13. Joshua cycles for 3 h 15 min at an average speed of 12 km/h and covers only $\frac{3}{9}$ of his journey. How far more has he got to cycle to complete his journey?

    (1) 13 km
    (2) 39 km
    (3) 78 km
    (4) 117 km

14. Water is pumped into a rectangular tank of dimensions 2 m by $\frac{1}{2}$ m by 3 m at a constant rate of 2 l per minute. How long will it take for the pump to fill the tank to a height of 80 cm? (1 l = 1000 cm^3)

    (1) $6\frac{2}{3}$ h

    (2) $14\frac{2}{3}$ h

    (3) 88 h
    (4) 400h

15. In the figure, which is not drawn to scale, find $\angle$ a + $\angle$ b.
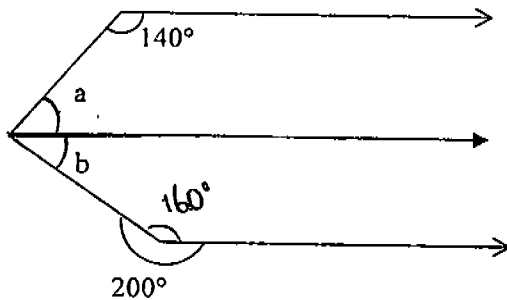
    (1)   90 °

    (2)   20 °

    (3)   60 °

    (4)   40 °

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2004 MID-YEAR EXAMINATION

MATHEMATICS

Name : _____ (   )

Class : Primary 6 / ____ (EM 1 / 2)

Date   : 11 May 2004

BOOKLET B

35 Questions
75 Marks

MARKS

	OBTAINED	POSSIBLE
BOOKLET A		25
BOOKLET B		75
TOTAL		100

Parent's Signature : _____

28

28

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

(20 marks)

16. Peter bought some books. He gave his sister 15 books and his brother 21 books and he still had $\frac{1}{3}$ of them left. How many books did he buy?

Ans:_____

17. There are 4 times as many chocolate cakes as mango cakes. If there are 80 cakes, how many chocolate cakes are there?
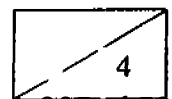
Ans:_____

18. There are 2400 books in the school library. 480 books are Chinese and 65% of the books are English and the rest are Malay books. How many Malay books are there in the library?

Ans:_____

19. Express 240 as a percentage of 400.

Ans:_____%

5

20. Lillian, Mary and Jane shared some curry puffs in the ratio of 6 : 5 : 4 respectively. There were a total of 150 curry puffs. How many curry puffs would Lillian have for herself?
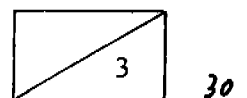
Ans:___ , ___

21. Mr. Lim took 3 hours to travel from his home to work which was 240 km apart. If he increased his speed by 20 km/h, by how much would his travelling time be reduced? (Give your answer in minutes)

Ans:___ ___ min

22. The figure below is not drawn to scale. BDEF is a parallelogram and ED // AB. Find ∠AEF.

Ans:___ ___ °
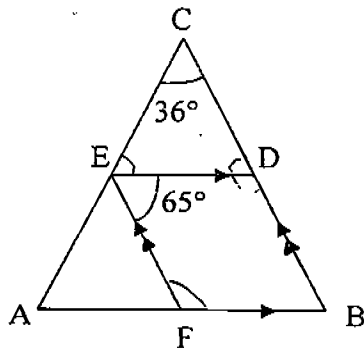
3
30
30

23. What is the maximum number of 2–cm cubes that can be packed into a box of dimension 15 cm by 10 cm by 12 cm?

Ans:_____

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24. The height of a cuboid is $1\frac{1}{5}$ of its length and its breadth is 120% of its height. Find the volume of the cuboid if its length is 5 cm.

Ans:_____ cm³

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25. Nicky had 8a marbles. He gave Chris 2a marbles and Peter 8 marbles. How many marbles would Nicky have left?
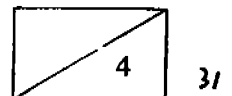
Ans:_____

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26. The figure below is made up of a square and a semi-circle. Find the area of the shaded part. (Express your answer in terms of π.)
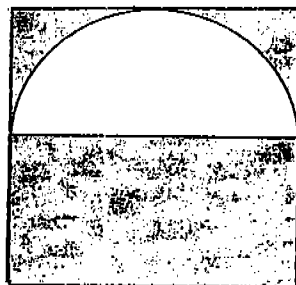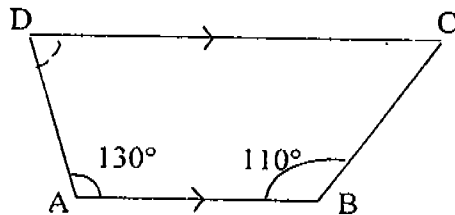

← 4 cm →

Ans:_____ cm²

27. Aaron is $\frac{1}{6}$ of his father's age. If his father is now 30 years old, what will be their total age in 6 years' time?

Ans:_____ yrs.

28. A circle has a diameter of $2y$ cm. Find the area of the circle in terms of y. (Take $\pi = \frac{22}{7}$)
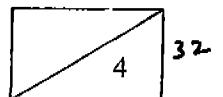
Ans:_____ cm^2

29. The following figure is not drawn to scale. ABCD is a trapezium and AB // CD. Find $\angle$ BCD.

Ans:_____ °

30. Jenny's mother gave her $10y for her birthday. Jenny bought 3 pens at $1.50 each and a book at $3y. How much had she left?

Ans: $_____

31. The average of six numbers was 17. If one number was added, the average of all the numbers became 18. What was the last number that was added?
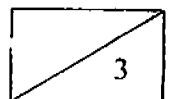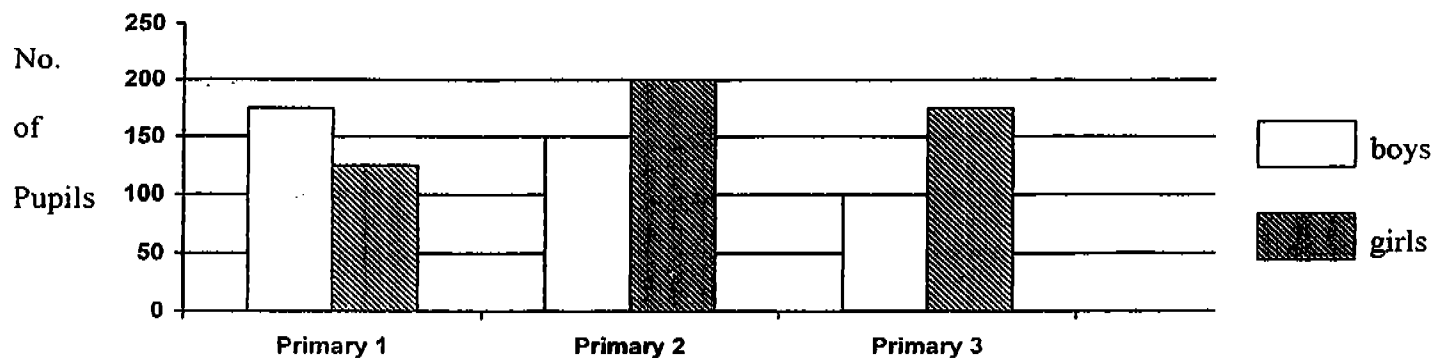
Ans:_____

32. Express 2.05 _l_ in litres and millitres.

Ans:_____ _l_ _____ _ml_

33. Car A and Car B travelled at 58km/h and 56 km/h respectively. Find the difference in distance travelled after 4 hours.

Ans:_____ km

9

The graph below shows the number of pupils in Primary 1, 2 and 3 in a school. Study the graph carefully and use it to answer question 34 and 35.
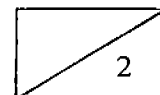

34.   Which fraction of the Primary 2 pupils are boys?

Ans:_____

35.   If $\frac{2}{37}$ of the total number of pupils in Primary 1, 2 and 3 are absent on a particular day, how many pupils are present on that day?

Ans:_____

34

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 the brackets [ ] at the end of each question or part-question.
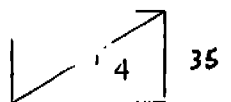
(55 marks)

36. The ratio of the number of red beads to the number of blue beads to the number of yellow beads in a box is 3 : 2 : 1. If there are 1200 beads, how many more red beads than yellow beads are there in the box?

Ans:_____ [2]

37. A van travels 100 km in 2 hours and a lorry travels at a speed of 40 km/h. What is the difference in speed between the two vehicles?

Ans:_____ [2]

38. Mr Tan took 8 hours to drive from Singapore to Kuala Lumpur at an average speed of 75 km/h. On his return journey, he increased his average speed by 5 km/h. How long did he take to drive back from Kuala Lumpur to Singapore?
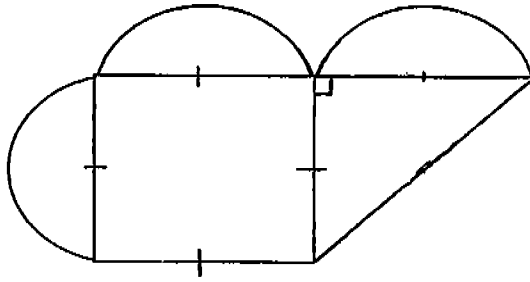
Ans: _____ [2]

39. The following figure shows a quarter circle with radius 5 cm and O is the centre of the quarter circle. Find its perimeter. (Take $\pi = 3.14$)

5 cm

O

Ans: _____ [3]

5

36

36
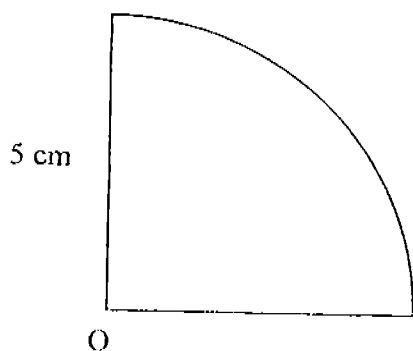
40. The figure is made up of a square which has an area of 196 cm², 3 similar semicircles and a right-angled triangle. Find the area of the figure. (Take $\pi = \frac{22}{7}$)
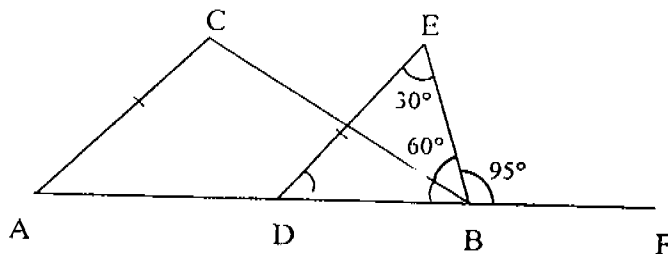
Ans: _____ | 3 |

41. Tom and Andrew have $274. Andrew and Jack have $310. Tom has $\frac{5}{7}$ of the money that Jack has. How much money does Andrew have?

Ans : _____ [3]

42. In the figure below, not drawn to scale, AC // DE and AF is a straight line.

(a) Find ∠BDE.
(b) Find ∠ADE.

Ans: (a) _____ [2]

(b) _____ [2]

43. The ratio of the number of sweets Alice had to the number of sweets May had was 3 : 5. After May had eaten 23 of her sweets, the ratio of the number of sweets Alice had to the number of sweets May had became 2 : 3. How many sweets did the 2 girls have at first?

Ans : _____ [4]

15

44. A rectangular tank, measuring 25 cm by 20 cm by 40 cm was $\frac{3}{4}$ filled with water. When a solid cube was placed in the tank, the height of the water level rose by 2 cm.

(a) What was the length of one side of the cube?

(b) Water was pumped into the tank at a rate of 125 ml per minute. How long would it take to fill up the tank to its brim? (1 litre = 1000 cm³)
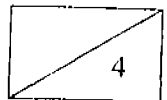
Ans : (a) _____ [2]

(b) _____ [2]

45. Joe read $\frac{1}{4}$ of a book on Monday, 80 % of the remainder on Tuesday and the remaining 21 pages on Wednesday. Find the total number of pages in the book.

Ans : _____ [4]

4

41

46. The ratio of the number of English story books to the number of Chinese story books in School A was 3 : 7. There were twice as many books in School A than in School B. When 300 Chinese story books were damaged and thrown away in School A, the ratio of the number of English story books to the number of the Chinese story books in School A became 2 : 3.

(a) How many Chinese story books were there in School A at first?

(b) What is the ratio of the number of Chinese story books in School A to the total number of story books in school B at first? (Give your answer in its lowest terms.)
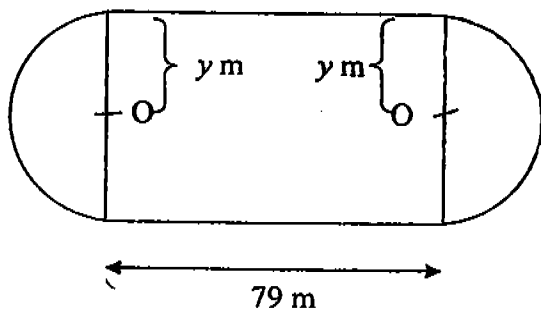
Ans :(a)_____ [2]

(b)_____ [2]

4
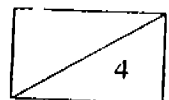
42

47. A toy car runs round the track as shown. The length of the straight run is 79 metres. O is the centre of the 2 semicircles and y is the radius of each semicircle.

(a) Express the perimeter of the track in terms of y.

(b) If the toy car runs round the track 70 times and the total distance it covers is 28 000 metres, what is the radius of the semicircle? (Take $\pi = \frac{22}{7}$)

Ans:(a)_____ [2]

(b)_____ [3]

43

5

48. The figure below, not drawn to scale, shows a square enclosed by a circle. O is the centre of the circle. The radius of the circle is 6 cm. Find the ratio of the area of the shaded part to the area of the unshaded part. Express your answer in its lowest terms. (Take $\pi = \dfrac{22}{7}$)
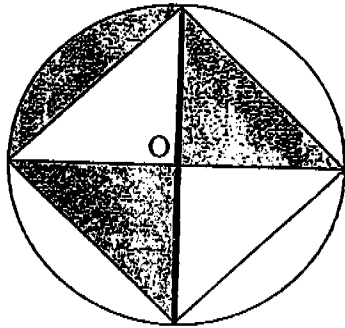
Ans:_____ [5]

49. Mr Tan left Town A at 11.30 am and travelled towards Town B at an average speed of 60 km/h. Half an hour later, Mr Li left Town B and travelled at a constant speed towards Town A. At 1 pm, they were 250 km away from each other and they met each other along the way at 3.00 pm.

(a) How far would Mr Tan have travelled when he met Mr Li?

(b) What was Mr Li's average speed?

Ans:(a) _____ [2]

(b)___ _____ [3]

_____ 45

50. On Monday, 972 worksheets were printed. On Tuesday, the number of worksheets that were printed was $\frac{2}{3}$ of the number of worksheets printed on Monday. The average number of worksheets printed on the subsequent 3 days was 30 more than the average printed on the first two days. What was the average number of worksheets printed daily?

Ans: _____ _____ [5]

*** END OF PAPER ***

RED SWASTIKA SCHOOL
MID YEAR EXAMINATION 2004   SA1
MATHEMATICS
PRIMARY 6

1)   3
2)   2
3)   1
4)   1
5)   ľ
6)   4
7)   3
8)   1
9)   4
10) 3
11) 4
12) 4
13) 3
14) 1
15) 3
16) 54 books
17) 64 chocolate cakes
18) 360 Malay books
19) 60
20) 60 curry puffs
21) 36
22) 36
23)
24) 216
25) (6a - 8) marbles
26) (16 - 4π)

27) 47
28)
29) 70
30) (7y - $ 450)
31) 24
32) 2 litres 50 ml
33) 8
34)
35) 875 pupils
36) 400 beads
37) 10 km/h
38) 7.5 h
39)
40) 525 cm^2
41) $ 184
42) a) 65° b) 115°

43) 368 sweets
44) a) 10 cm
    b)
45)
46) a) 840 chinese book
    b) 7 : 5
47) a)
    b)

48)

49) a) 210 km
    b) 65 km/h
50) 828 worksheets

47