METHODIST GIRLS' SCHOOL (PRIMARY)

PRIMARY SIX PRELIMINARY EXAMINATION 2004

MATHEMATICS

BOOKLET A

SA2

15 Questions

25 Marks

Total Time For Booklets A & B : 2h 15min

DO NOT OPEN THIS BOOKLET UNTIL YOU ARE TOLD TO DO SO.

FOLLOW ALL INSTRUCTIONS CAREFULLY.

ANSWER ALL THE QUESTIONS.

NAME: _____ ( )

INDEX NO: _____

CLASS: PRIMARY 6. _____

DATE: _____

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.

(Total: 25 marks)

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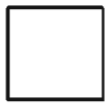
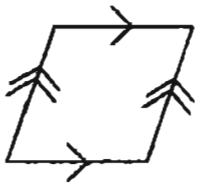
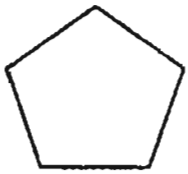
1. The interior angles of all the shapes below add up to 360° *except* for one. Which one is it?

1) 

2) 

3) 

4) 

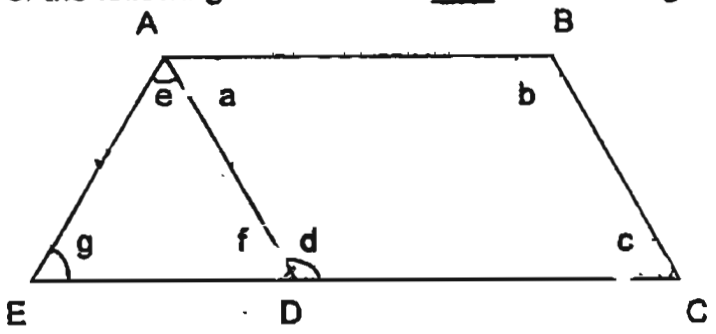
2. The following table shows the results of a survey conducted on the reading habits of pupils in a certain class for a particular week.

No. of books read	No. of pupils
1	0
2	15
3	13
4	12

How many books did the class read altogether in the week?

1) 10
2) 117
3) 118
4) 400

3. In the figure, ABCD is a parallelogram. CDE is a straight line and AD = AE. Which one of the following statements is <u>true</u> about the figure?



1) $\angle a = \angle b$
2) $\angle a = \angle e$
3) $\angle c = \angle f$
4) $\angle a + \angle c = 180°$

4. The area of 2 similar squares is 128 cm^2. What is the length of one side of the square?

1) 32 cm
2) 16 cm
3) 8 cm
4) 4 cm

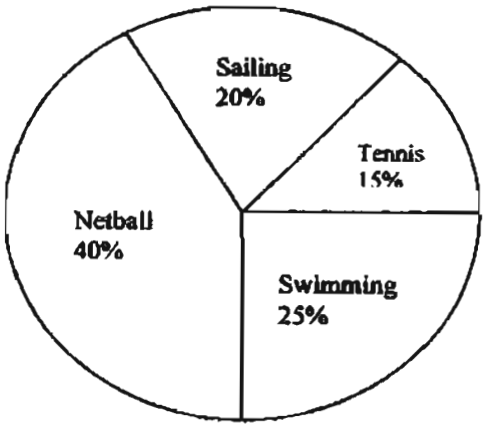
5. Three strings measure 1.1 m, 50 cm and 5 cm respectively. What is the total length of the strings?

1) 1.155 m
2) 1.515 m
3) 1.605 m
4) 1.650 m

6. I am thinking of a fraction. The sum of its numerator and denominator is 21. When I add 3 to its denominator, the fraction becomes $\frac{1}{3}$. What is the fraction that I am thinking of?

1) $\frac{3}{18}$
2) $\frac{4}{17}$
3) $\frac{6}{15}$
4) $\frac{7}{14}$

7. The following pie chart shows the preference of a group of girls for certain games. If 160 girls indicated a preference for netball, how many **more** girls prefer swimming to tennis?



1) 20
2) 40
3) 80
4) 100

8. The average of 3 numbers is 2. Two of the numbers are the same. The third number is 0.45 less than one of the other 2 numbers. What is the third number?

1) 1.7
2) 1.85
3) 2.15
4) 3.55

9. Mrs Ng is f times as old as her daughter now. If her daughter was 15 years old 3 years ago, how old is Mrs Ng 3 years from now?

1) (f – 16) years old
2) (3f – 15) years old
3) (12f + 3) years old
4) (18f + 3) years old

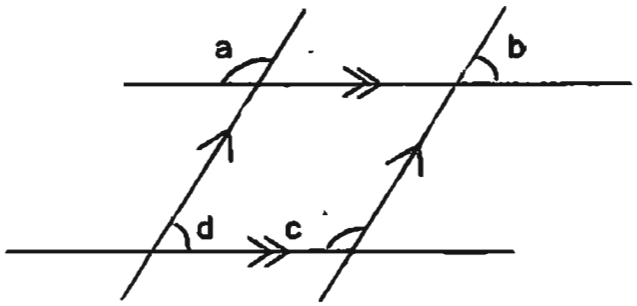
10. Jane's weekly salary is $150 and Jessie's weekly salary is $180. How many **more** weeks will Jane take to earn the same amount as Jessie whose earnings is $2 700?

1) 3 weeks
2) 15 weeks
3) 18 weeks
4) 90 weeks

11. A bag containing 6 similar books weighs 2.2 kg. The same bag with 2 books removed weighs 1.8 kg. Find the weight of the bag.

1) 0.2 kg
2) 0.4 kg
3) 1.0 kg
4) 1.2 kg

12. In the diagram below, which pair of angles **do not** add up to 180°?



1) $\angle a + \angle b$
2) $\angle a + \angle c$
3) $\angle b + \angle c$
4) $\angle c + \angle d$

13. Crosby and Daniel shared a sum of money in the ratio 5:8. After Crosby bought a book for $5, the ratio became 1:2. What was the original sum of money?

(1) $15
(2) $25
(3) $40
(4) $65

14. Forty cubes of side 1 cm are needed to build a rectangular box. If the perimeter of its base is 14 cm, what is the height of the box?

(1) 7 cm
(2) 6 cm
(3) 5 cm
(4) 4 cm

15. The length of a rectangle is twice its breadth. If its perimeter is 36 cm, what is the area of the rectangle?

(1) 36 cm^2
(2) 72 cm^2
(3) 144 cm^2
(4) 288 cm^2

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

(Total: 20 marks)

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16. What is the sum of the first three multiples of 9?

Ans : _____

17. What is 0.22 less than 25 tenths?

Ans : _____

18. $12 + \square \div 6 = 20$

Find the value of the missing number in the box.

Ans : _____

19. Evaluate $5 - 1.6 \times 2$

Ans : _____

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

Ans : _____

METHODIST GIRLS' SCHOOL (PRIMARY)

PRIMARY SIX PRELIMINARY EXAMINATION 2004

MATHEMATICS

BOOKLET B1

20 Questions

20 Marks

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ANSWER ALL THE QUESTIONS.

NAME: _____ ( )

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20

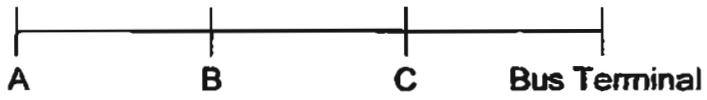
21. A clock reads 9.30 on a particular Sunday morning, but then starts to run too fast gaining 4 minutes each hour. What is the actual time when the clock displays 11.38 a.m.?

Ans : _____ a.m.

22. A boy can cycle 4 km in 20 minutes. At this rate, how long will he take to cycle to the post office and back if the post office is 18 km away?

Ans : _____ hours

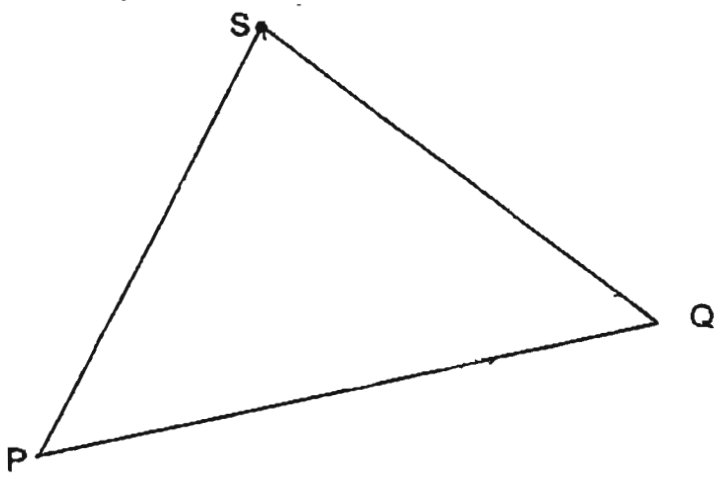
23. A bus was travelling towards the Clementi bus terminal.
At bus stop B, 9 passengers got on and 4 passengers got off.
At bus stop C, 3 passengers got on but none got off the bus.
When the bus reached the bus terminal, all 30 passengers got off.
How many passengers were there in the bus when it left bus stop A?



Ans : _____ passengers

35

Refer to the diagram below to answer questions 24 to 26.



24. Draw a line perpendicular to PQ passing through point S.

25. Measure $\angle SQP$.

Ans : _____ °

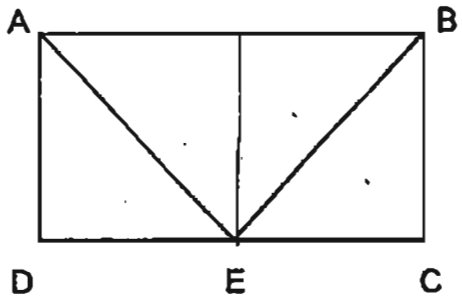
26. What is the name of triangle PQS?

Ans : _____

27. A bus can carry 30 passengers, a minibus can carry 8 passengers and a train carriage can carry 52 passengers. How many train carriages would be needed to carry passengers from 5 full buses and 10 full minibuses?

Ans : _____train carriages.

28. ABCD is a rectangle and E is the midpoint of DC. Express the ratio of the shaded area to the area of the whole figure in the simplest form.



Ans : _____

29. A bank gives 0.2% interest a year. Mark deposited $10 000. What is the interest that he will receive at the end of the year?

Ans : $_____

30. The diameter of a wheel is 45 cm. What is its circumference? Express your answer in metres, rounded off to 2 decimal places. Take $\pi = 3.14$.

Ans : _____ m.

31. A jug has enough water to fill 7 cups. If each cup holds 250 *ml* of water, how much water was there in the jug at first? (1 litre = 1 000 ml)

Ans : _____ *l*

32. The cost of 4 pens and 3 rulers is $5.45 while the cost of 2 pens and 4 rulers is $4.80. What is the cost of 1 ruler?

Ans : $_____

METHODIST GIRLS' SCHOOL (PRIMARY)

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MATHEMATICS

BOOKLET B2

15 Questions

55 Marks

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NAME: _____ _____ ( )

INDEX NO: _____

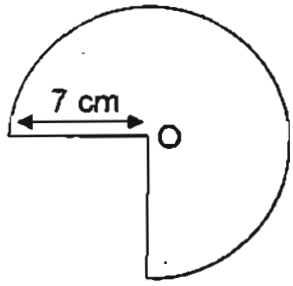
CLASS: PRIMARY 6. _____

DATE: ___ _____

55

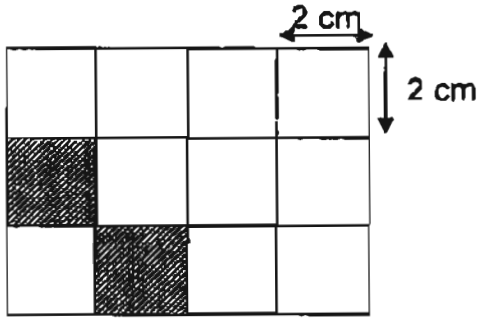
38 28

33. In the figure below, O is the centre. Find the perimeter of the figure.
Take $\pi = \frac{22}{7}$.



Ans : _____ cm

34. How many <u>more</u> 2-cm squares must be shaded such that the area of the shaded region is 28 cm^2?



Ans : _____ more squares

35. A stone with a volume of 500 cm^3 is placed in a rectangular tank measuring 100 cm by 50 cm by 30 cm. How much water must be poured into the tank such that the water level reaches $\frac{2}{3}$ of the height of the tank.

Ans: _____ _____ cm^3

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.

(Total: 55 marks)

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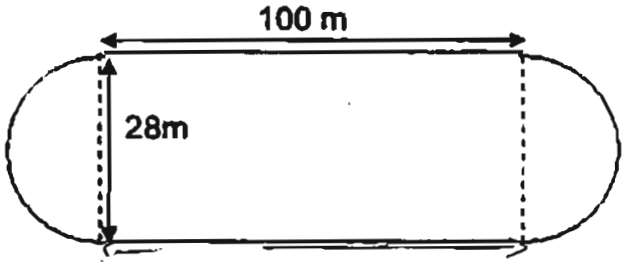
36. 7 boys sold an average of 45 donation draw tickets. When 5 girls joined them, the average number of tickets sold was 55. What was the average number of tickets sold by the girls?

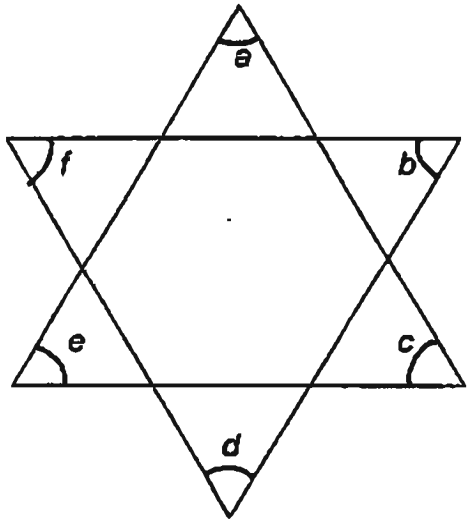
Ans: _____ [2m]

37. The diagram below shows a running track. John ran 4 times round the track. What was the total distance ran? Take $\pi = \frac{22}{7}$.



Ans: _____ [2m]

38. Find the sum of $\angle a$, $\angle b$, $\angle c$, $\angle d$, $\angle e$ and $\angle f$.



Ans: _____ [2m]

39. Mary is paid $8.50 for working 1 hour. She wants to buy a bag that costs $229.50. If she works from 9.00 a.m. to 3.00 p.m. daily, how many days must she work in order to earn <u>enough</u> money to buy that bag? (Round off your answer to the nearest whole number)

Ans: _____ _____ [3m]

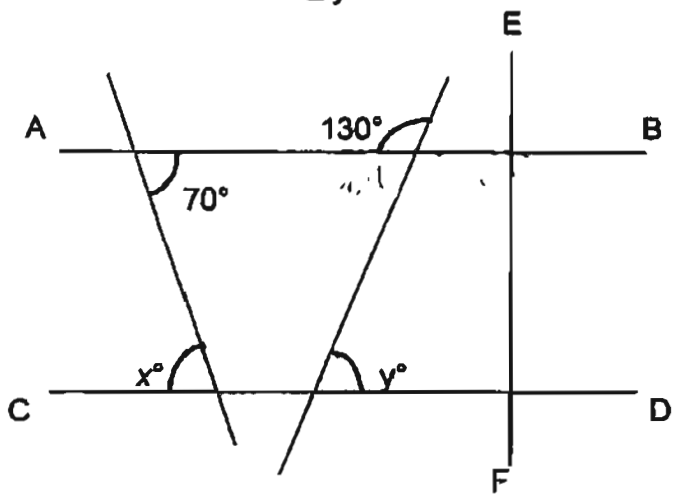
41

40. The breadth of a netball court is y metres. Its length is 3 times as long as its breadth. Find:
    (a) the perimeter of the court
    (b) the area of the court

Ans: (a) _____ [2m]

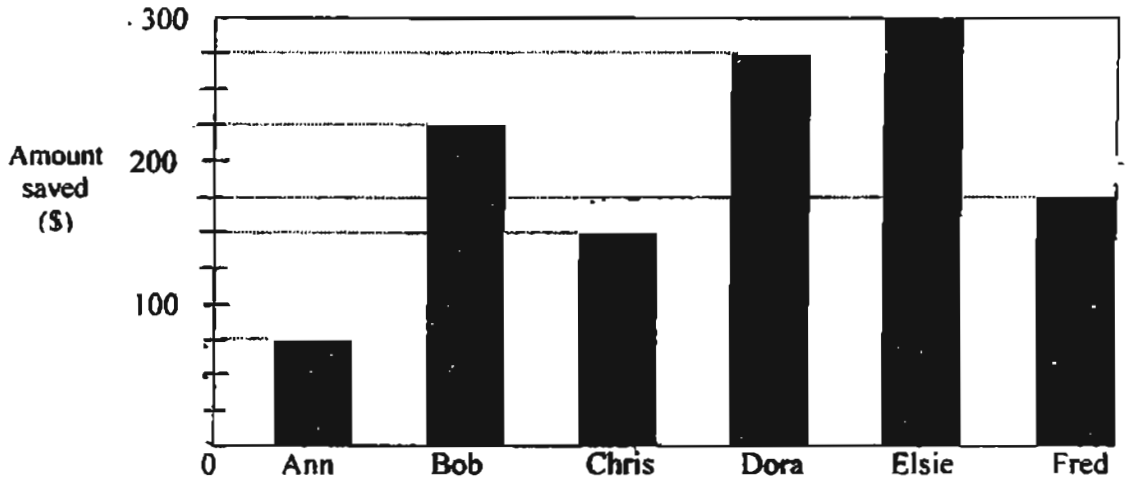
(b) _____ [1m]

41. AB and CD are straight lines and are parallel to each other. EF is perpendicular to AB and CD. Find $\angle x + \angle y$.



Ans: _____ [3m]

42. The line graph shows the savings of 6 pupils in August. Each pupil had $500 at first. Study the graph carefully and answer the questions that follow:



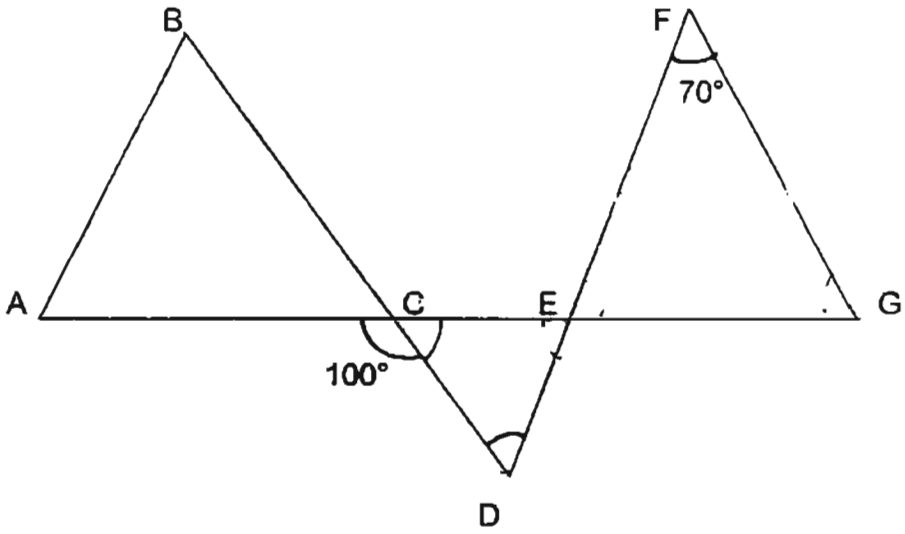
(a) What was the total amount of money saved by the children?

(b) What fraction of the total amount of money was spent? (Give your answer in its lowest terms)

Ans: (a) _____ [2m]

(b) _____ _____ [2m]

43. In the diagram below, ACEG is a straight line and EF = FG. Find $\angle$ CDE.



Ans: _____ _____ [4m]

44. The ratio of the cost of a television to the cost of a dining table is 7 : 4. During the Great Singapore Sale, a 20% discount was given to the price of the television and a 30% discount was given to the price of the table. If the television cost $2 800 during the sale, how many per cent more is the cost of the television than the table during the Great Singapore Sale?

Ans: _____ [4m]

45. A watermelon weighing 1 kg contains 93% water. After being left in the sun for a while, its water content decreased by 3%. What is the weight of the watermelon now?

Ans: _____ [4m]

46. A tank measuring 100 cm by 50 cm by 42 cm was $\frac{2}{3}$ - filled with water.

4-cm cubes are then placed in the tank. What is the maximum number of cubes that can be placed in the tank such that the water in the tank will not overflow?

Ans: _____ _____ [4m]

47. Mrs Lee and her family drove from Singapore to her hometown in Malacca. She completed $\frac{1}{4}$ of her journey in $\frac{3}{4}$ h and another $\frac{1}{3}$ of the journey in $1\frac{1}{3}$ h. She travelled the remaining 150 km in 55 minutes.

(a) What is the distance between Singapore and her hometown in Malacca?
(b) Find her average speed for the whole journey.

Ans: (a) _____ [2m]

(b) _____ [3m]

47 4F

48. Sally bought some strawberries. $\frac{2}{15}$ of them were rotten and had to be thrown away. Her neighbours ate 72 strawberries. She was then left with $\frac{3}{5}$ of the strawberries she bought. She packed all of them into trays.

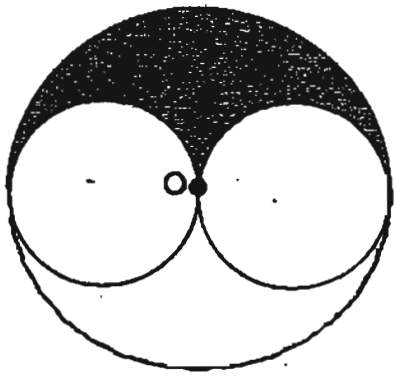
a) How many strawberries did Sally buy?
b) If each tray could hold 15 strawberries, what was the least number of trays she would need to use?

Ans: (a) _____ [3m]

(b) _____ [2m]

48 48

49. The diagram below shows 2 smaller circles of equal size within a bigger circle. The area of the big circle is π square units. The 2 smaller circles touch each other at point O, which is also the centre of the big circle. Find the area of the shaded region.



Ans: _____ [5m]

50. Cara and Jane had $282. Jane had $4 less than Cara. Jane spent half as much as Cara and was left with twice as much money as Cara. How much did Jane spend?

Ans: _____ [5m]

50 50

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SA2

1)4

2) 2

3) 3

4) 3

5) 4

6) 3

7) 2

8) 1

9) 4

10) 1

11)3

12) 2

13) 4

14) 4

15) 2

16) 54

17) 2.28

18) 48

19) 1.8

20) 4

21)11.30

22) 3

23) 22

24)

25) 50

26) isosceles

27) 5

28) 1 : 2

29) 20

30) 1.41 m

31) 1.75

32) 0.83

33) 47

34) 5

35) 99500

36) 69 tickets

37) 1152 m

38) 360^{o}

39) 5 days

40) a) The perimeter is (8y) m
b) The area is $(3y^2)$ m^2
c) $(3y^2)$ m^2

41) 120^{o}

42) a) $ 1200
b) 3/5

43) 45^{o}

44) 100%

45) 972.1 g

46) 1093 cubes

47) a) 360 km
b) 120 km/h

48) a) 270 strawberries
b) 11 trays

49) $\frac{\pi}{4}$ square units

50) $ 49

51 END! 57