RAFFLES GIRLS' PRIMARY SCHOOL

PRELIMINARY EXAMINATION

2005

Your Score out of 100 marks			
		Class	Level
Highest score			
Average score			
Parent's Signature			

Name : _____ Class: P6 _ Index No: _____

23 AUGUST 2005   MATHEMATICS   ATT: 2 h 15 min

Booklet 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 and 4). Shade the correct oval on the Optical Answer Sheet. (25 marks)

1.   What is the value of A in the number line?
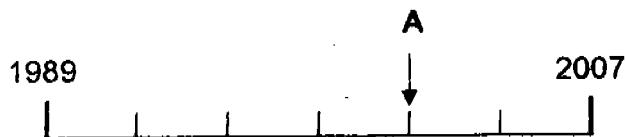
(1)   1993
(2)   1998
(3)   2001
(4)   2005

1

2. $\dfrac{5}{8}$ is the same as $\dfrac{\square}{32}$

What is the missing number in the box ?

(1)   10
(2)   15
(3)   20
(4)   25
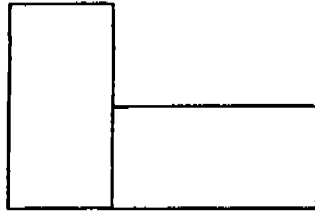
3. Which one of the given numbers has the greatest value ?

(1)   0.9
(2)   1.7
(3)   0.91
(4)   1.08

4. $3\dfrac{3}{4}$ h is the same as _____.

(1)   345 minutes
(2)   375 minutes
(3)   3 hours 15 minutes
(4)   3 hours 45 minutes

2

5. The figure below is made up of two identical rectangles, each measuring 4 cm by 2 cm.

What is the perimeter of the figure?

(1)   16 cm
(2)   20 cm
(3)   22 cm
(4)   24 cm

6. Which set of fractions given below is arranged from the smallest to the greatest value ?

(1) $\dfrac{1}{2}$ $\dfrac{3}{4}$ $\dfrac{3}{5}$ $\dfrac{2}{3}$

(2) $\dfrac{1}{2}$ $\dfrac{3}{5}$ $\dfrac{2}{3}$ $\dfrac{3}{4}$

(3) $\dfrac{1}{2}$ $\dfrac{2}{3}$ $\dfrac{4}{5}$ $\dfrac{5}{7}$

(4) $\dfrac{3}{4}$ $\dfrac{2}{3}$ $\dfrac{3}{5}$ $\dfrac{1}{2}$
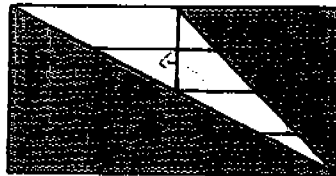
3

7. Ben ran a distance of 620 m in 4 minutes.

Find his average running speed.

    (1)   124 m/min

    (2)   150 m/min

    (3)   155 m/min

    (4)   372 m/min

8. $3w^2$ can be expressed as _____ .

    (1) $3 + w^2$

    (2) $3 + w \times w$

    (3) $3 \times w \times 2$

    (4) $3 \times w \times w$

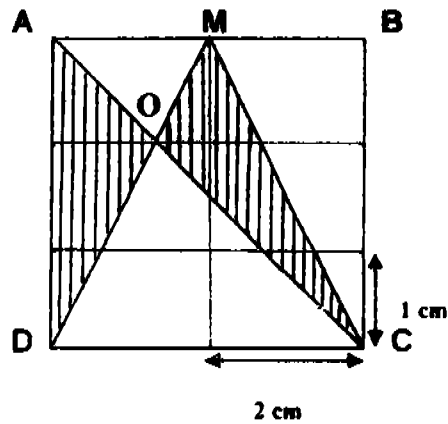9. The figure below is divided into equal rectangular units.

What percentage of the figure is shaded ?

    (1)   25 %
    (2)   62.5 %
    (3)   75 %
    (4)   87.5%

4

10. James' watch moves faster by five minutes every hour.

If the time shown on his watch is 2.25 p.m. now, what should be the actual time three hours ago?

(1) 11.25 a.m.
(2) 11.10 a.m.
(3) 11. 40 a.m.
(4)   5. 10 p.m.

11. The figure below is drawn on a rectangular grid.

2 cm

Find the total area of the shaded parts of the figure.

(1) 9 cm^2
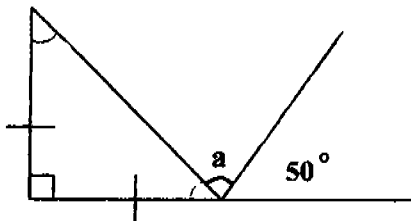(2) 8 cm^2
(3) 6 cm^2
(4) 4 cm^2

5

12. The table below shows the number of pupils who were late for school from January to May this year.

Month	Jan	Feb	Mar	Apr	May
Number of latecomers	16	8	10	20	18

In which month were there twice as many latecomers as the month before?
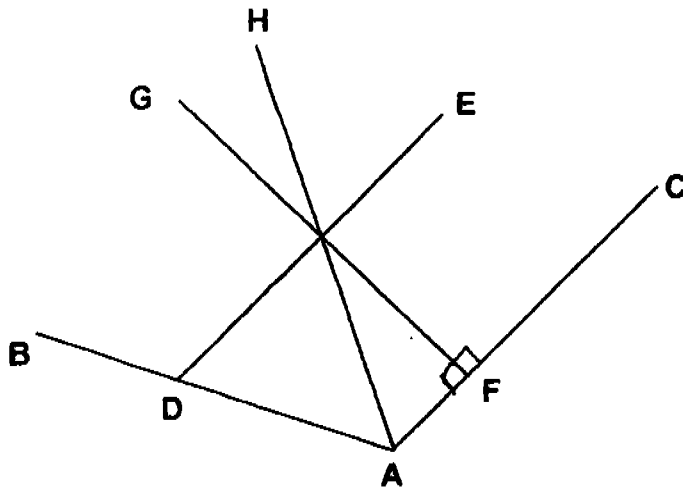
(1) February

(2) March
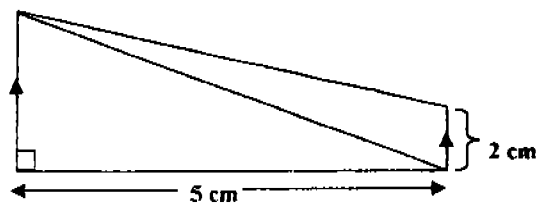
(3) April

(4) May

13. Find the value of $\angle a$.

(1) $45°$

(2) $85°$

(3) $90°$

(4) $135°$

6

14. In the figure below, AC, AB, DE, FG and AH are straight lines.

Which line is perpendicular to AC ?

(1) GF

(2) AH

(3) DE

(4) AB

15. The diagram below is made up of 2 triangles.

The area of the smaller triangle is $\frac{1}{3}$ the area of the bigger triangle.

What is the area of the bigger triangle?

(1) 5 cm^2

(2) 10 cm^2

(3) 15 cm^2

(4) 30 cm^2

7

NAME : _____   DATE : _____

CLASS : _____   SUBJECT : _____

WRITE	SHADE OVALS

INDEX NUMBER

⑤ ⑥ ⑦ ⑧ ⑨

④ ⑤ ⑥ ⑦ ⑧ ⑨

⓪ ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

⓪ ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

⓪ ① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨

Ⓐ Ⓑ Ⓒ Ⓓ Ⓔ Ⓕ Ⓖ Ⓗ Ⓘ Ⓙ Ⓩ

EXAMPLE: IF YOU THINK THE 2ND OPTION IS THE CORRECT ANSWER SHADE THE OVAL ② LIKE THIS :

① ● ③ ④

1 ① ② ● ④
2 ① ② ● ④
3 ① ● ③ ④
4 ① ② ③ ●
5 ① ● ③ ④

6 ① ● ③ ④
7 ① ② ● ④
8 ① ② ③ ●
9 ① ② ● ④
10 ① ● ③ ④

11 ① ② ③ ●
12 ① ② ● ④
13 ① ● ③ ④
14 ● ② ③ ●
15 ① ② ● ④

16 ① ② ③ ④
17 ① ② ③ ④
18 ① ② ③ ④
19 ① ② ③ ④
20 ① ② ③ ④

21 ① ② ③ ④
22 ① ② ③ ④
23 ① ② ③ ④
24 ① ② ③ ④
25 ① ② ③ ④

26 ① ② ③ ④
27 ① ② ③ ④
28 ① ② ③ ④
29 ① ② ③ ④
30 ① ② ③ ④

31 ① ② ③ ④
32 ① ② ③ ④
33 ① ② ③ ④
34 ① ② ③ ④
35 ① ② ③ ④

36 ① ② ③ ④
37 ① ② ③ ④
38 ① ② ③ ④
39 ① ② ③ ④

41 ① ② ③ ④
42 ① ② ③ ④
43 ① ② ③ ④
44 ① ② ③ ④
45 ① ② ③ ④

46 ① ② ③ ④
47 ① ② ③ ④
48 ① ② ③ ④
49 ① ② ③ ④
50 ① ② ③ ④

51 ① ② ③ ④
52 ① ② ③ ④
53 ① ② ③ ④
54 ① ② ③ ④
55 ① ② ③ ④

56 ① ② ③ ④
57 ① ② ③ ④
58 ① ② ③ ④
59 ① ② ③ ④

PG101 SCANNING SYSTEMS PTE LTD

Name: _____ Class: P 6 (   ) Index No.: _____

Booklet B1 (20 marks)
Questions 16 to 25 carry 1 mark each. Write your answers in the spaces provided. Give your answers in the units stated.

16.   Find the value of $49 - (50 - 132 \div 11) + 2$

Answer: _____

17.   Express $\dfrac{29}{7}$ as a mixed number.

Answer: _____

18.   Change $\dfrac{2}{25}$ to a decimal.

Answer: _____

19. $\dfrac{2}{3}$ of the length of Stick B is half the length of Stick A. If Stick A is 18 cm longer than Stick B, find the total length of the two sticks.
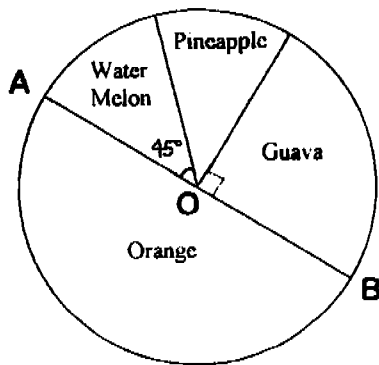
Answer: _____m

20.   Find the volume of a cube if one of its faces has an area of 49 cm^2

Answer: _____cm^3

8

21. The pie chart below shows the favourite drink of a class of pupils.
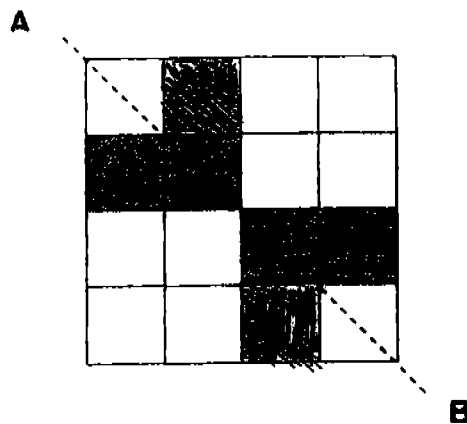
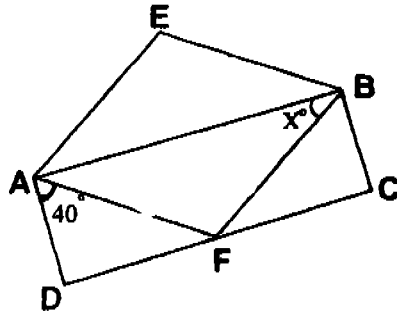AB is a straight line and O is the centre of the chart.

If 60 pupils chose orange juice, how many pupils chose pineapple juice ?

Answer: _____ pupils

22. In the figure below, shade two squares such that AB is the line of symmetry.

9

23. The figure below is made up of a rectangle ABCD and a rhombus AEBF. Find ∠ x.

Answer: _____ °

24. At Car Park A, the parking fee is charged at the following rates:

| For the first hour or part thereof | $2 |
| For every additional half hour or part thereof | $1.00 |

Max parked his car at the car park for 2 hours 15 minutes.
How much did he pay for using the car park?

Answer: $_____

25. What is the missing number in the box?

24 : ☐ = 8 : 3

Answer: _____

10

26. Find the value of 10p + 8 – 3p – 5 when the value of p is 3.

Answer: ____ _____

27. Express 3000 m as a percentage of 5 km.

Answer: _____%

28. Helen has some marbles.
If she puts them into bags of 5, she would have 2 marbles left.
If she puts them into bags of 7, she would be short of 3 marbles.
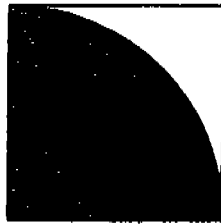How many marbles does she have?

Answer: _____ marbles

29. Subtract 10 tenths from 2.3. Express your answer as a decimal.

Answer: _____

11

30. The rate of renting a car is $70 per day. In addition, there is a 5 % GST charge. How much must Tom pay if he rents a car for 2 weeks?
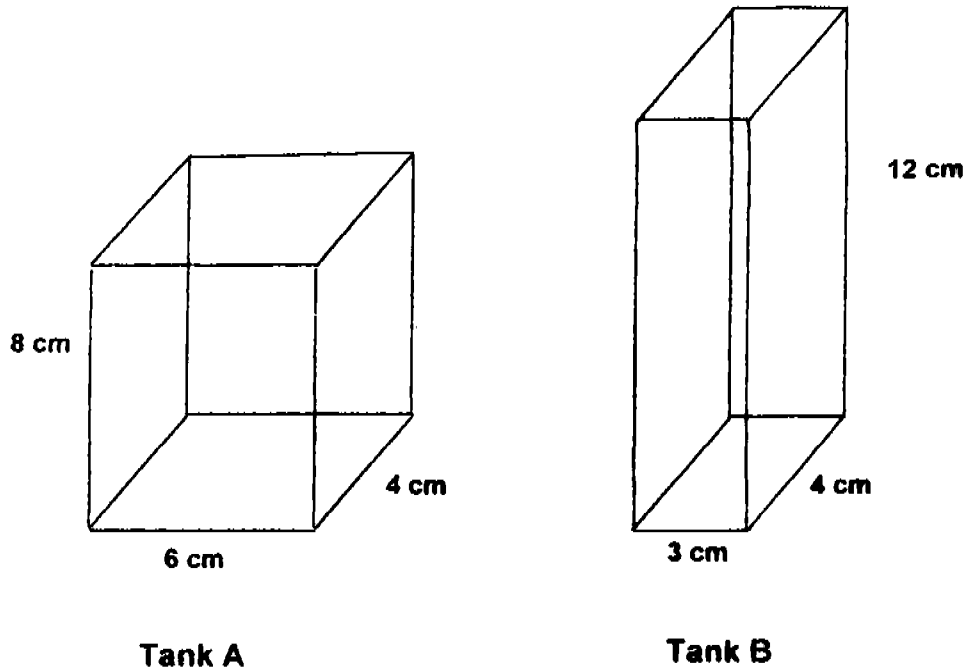
Answer: $ _____.

31. The figure below is made up of a square and a quadrant.
The area of the square is 64 cm².

Find the perimeter of the shaded part. Leave your answer in terms of π.

Answer: _____ cm

12

32. An equal amount of water is poured into two empty tanks A and B.

8 cm

4 cm

6 cm

Tank A

12 cm

4 cm

3 cm

Tank B

If Tank A is half-filled with water, what is the height of the water level in Tank B?

Answer: _____ cm

33. Extend the tessellation by drawing 2 more unit shapes in the space provided.

13
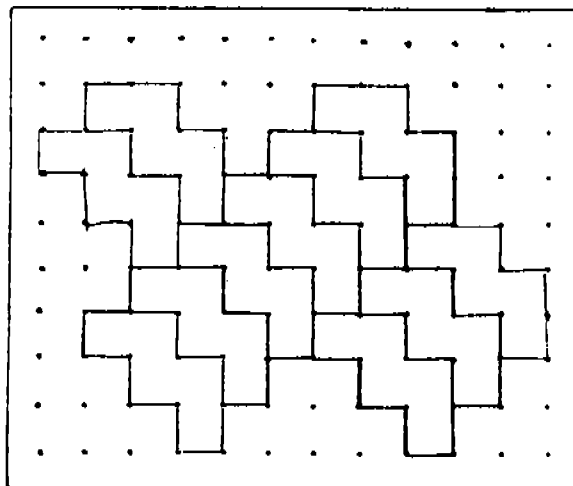
34. Amanda drove at a constant speed of 72 km/h completing the last $\frac{3}{8}$ of her journey in 30 minutes. Find the total distance that Amanda had travelled?

Answer: _____ km

35. What is 40% of the sum of money if $\frac{1}{6}$ of it is $120 ?

Answer: $ _____

14

Booklet B2 (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 the brackets [ ] at the end of each question or part-question.

36. In the figure below, ABC is a triangle.
    With a setsquare, a ruler and a pencil, draw a line through the point X such that it is parallel to the line AC.

[2m]

15
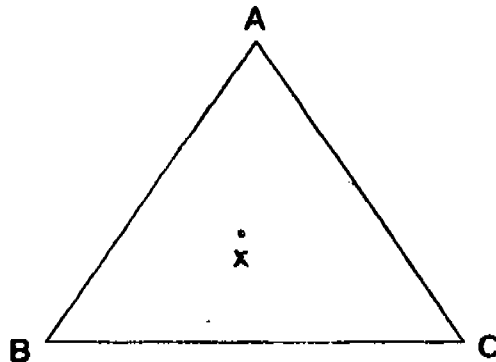
37. The rates of booking a tennis court at a club are as follows:

Weekdays (9a.m. – 5p.m.)	$2.00 per hour
Weekdays (5p.m. – 10p.m.)	$5.00 per hour
Saturdays and Sundays	$6.00 per hour

Each member has to pay $5 for every guest brought to the club.

Mary brought two guests to the club to play tennis on Friday
and paid a total of $22. How long did she book the tennis court for
if they started playing at 4 p.m.?

Answer: _____ [2m]

38. If 12 chickens lay 3 dozen eggs in 4 days, how many eggs would you
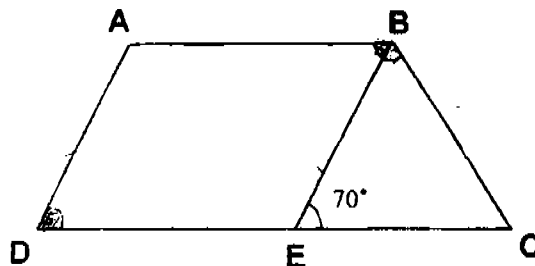expect 6 chickens to lay in 8 days?

Answer: _____ [2m]

16

39. Mr. Wong earns $2 for every book that he sells. He earns an additional $5 for every 12 books he sells. How many books must he sell in order to earn $609?

Answer: _____ [3m]

40. The figure below shows a trapezium ABCD. AD is parallel to BE and BE = BC. ∠BEC = 70°

(a) Find ∠ADC
(b) Find ∠ABC

Answer: (a) _____ [1m]

(b) _____ [2m]

17

41. Grace bought 6 apples for $p and 4 oranges for $3p.
She gave the cashier $50 and received a change of $42.
How much did one orange cost ?

Answer: _____ [3m]

42. Jane wanted to buy a piano with the money she had saved. She found that she had only $\frac{3}{5}$ of its cost. Each of her parents contributed $400 towards the purchase but Jane was still short of $\frac{2}{7}$ of the amount needed to buy the piano.

(a) How much more money would Jane need in order to buy the piano?

(b) How much did the piano cost?

Answer: (a) _____ [3m]

(b) _____ [1m]

18

43. Eight identical 5-cm cubes are placed in an empty rectangular tank of length 75 cm and width 40 cm. The tank is then filled with water running from a tap at the rate of 9 litres per minute. It takes 11 minutes to fill up $\frac{2}{3}$ of the tank.

(a) How much more water is needed to fill up the tank to its brim? Express your answer in litres.

(b) Find the height of the tank.

Answer: (a) _____ [2m]

(b) _____ [2m]

19

44. The graph below shows the number of story books read by the various classes in a school over a period of time.
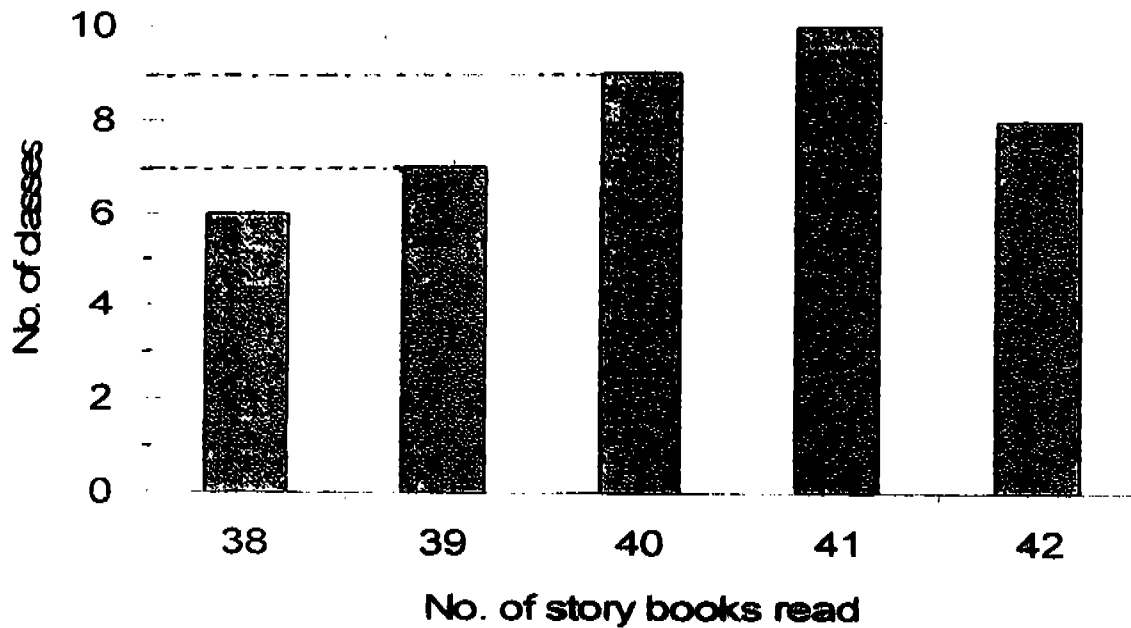
(a) What was the total number of classes in the school ?

(b) How many classes in the school read more than 40 story books ?

(c) What percentage of the classes in the school read fewer than 40 story books ?

Answer: (a) _____ [1m]

(b) _____ [1m]

(c) _____ [2m]

20

45.   Rachel and Dan were driving at uniform speeds towards each other. Rachel was driving at a speed of 60 km/h. At 3.30 pm, both of them were 488 km apart. The two only passed each other at 7.30 pm.

At what speed was Dan travelling?

Answer: _____ [4m]

21

46.　Geraldine had a basket of apples and oranges.
　　 The ratio of the apples to the oranges was 1 : 2.
　　 When 56 more apples were put into the basket, the ratio of the apples
　　 to the oranges became 9 : 2.

　　 (a)　What was the original number of apples in the basket ?
　　 (b)　If Geraldine were to sell the fruits in her basket at $2 for any
　　　　　 three of them or at $0.80 for any one fruit, how much would
　　　　　 Mrs Lu have to pay for 44 apples and oranges ?

Answer: (a) ___ 　 _ _ _[1m]

　　　　　 (b) _____[3m]

22

47. Mr. Lim planted some rambutans trees in a row with the same distance apart. The distance between the first and the fifth tree was 20 m.
Find the distance between

(a) the first and the tenth tree; and
(b) the 5th and the 40th tree.

Answer: (a) _____ [3m]

(b)_____[2m]

23

48. Kim bought 8 marking pens and 6 torches of the same kind from a shop.
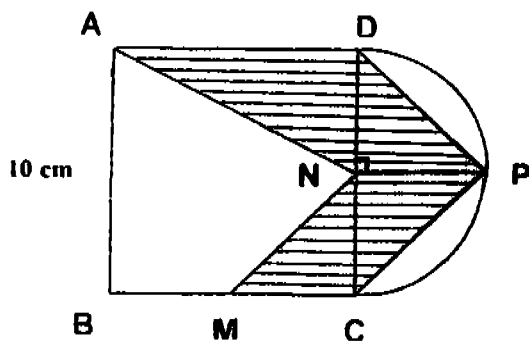
She paid a total sum of $38.50 for all the items.

If a torch cost $2.45 more than a pen,

(a)   find the cost of one pen.

(b)   what would be the cost of 4 pens and 8 torches after

a 10% discount was given?

Answer: (a) _____ [3m]

(b) _____ [2m]

24

49. The figure below is made up of a square ABCD of sides 10 cm each and a semicircle DPC. M and N are the mid-points of BC and DC respectively.

(a) Find the area of the shaded part of the figure.

(b) Using π = 3.14, find the total area of the unshaded parts of the semicircle.

Answer: (a) _____ [3m]

(b) _____ [2m]

25

50. A school staged a play at the Victoria Theatre on two evenings.
    On the first evening, there were 80 more boys than girls in the audience.
    On the second evening, the number of boys decreased by 10%
    while the number of girls increased by 20%.
    If there were 1542 boys and girls on the second evening,

    (a) find the number of boys present on the second evening ?

    (b) What was the total sum of money collected from the sale of the
        tickets on the two evenings if each ticket cost $30 ?

    Answer: (a) _____ [3m]

    (b) _____ [2m]

END OF PAPER

26

RAFFLES GIRL'SPRIMARY SCHOOL
PRIMARY 6 MATH 2005 .   PRELIMINARY EXAM PAPER

ANSWER SHEEETS

1. 3
2. 3
3. 2
4. 4
5. 2
6. 2
7. 3
8. 4
9. 3
10. 2
11. 4
12. 3
13. 2
14. 1
15. 3
16. 13
17. 4 1/7
18. 0.08
19. 1.26
20. 343
21. 15pupils
22. in diag
23. 50°
24. $5
25. 9
26. 24
27. 60%
28. 32marbles
29. 1.3
30. $1029
31. (4π+16)cm
32. 8cm
33. in diagram
34. 96km
35. $288
36. in diagram
37. 3hours
38. 36eggs
39. 252
40. a)70° b)110°
41. $1and50cents
42. a)$2000 b)$7000
43. a)50° b)50cm

44)a)40 classes   b)18 classes
     c)32.5%

45)62km/h
46)a)7 b)$29.60
47)a)45m b)175m
48)a)$1.70 b)$36
49)a)62.5cm2   b)14.25cm2
50)a)702 boys b)$90660