Name : _____( )

Class : Primary 6_____

CHIJ ST NICHOLAS GIRLS' SCHOOL

Primary 6 Mathematics

Preliminary Examination – 2009

Paper 1

Booklet A

25 August 2009

TOTAL TIME FOR BOOKLETS A AND B: 50 MINUTES

INSTRUCTIONS TO CANDIDATES
DO NOT TURN OVER THIS PAGE UNTIL YOU ARE TOLD TO DO SO.
FOLLOW ALL INSTRUCTIONS CAREFULLY.
ANSWER ALL QUESTIONS.
YOU ARE <u>NOT</u> ALLOWED TO USE A CALCULATOR.

This booklet consists of 7 printed pages including the cover page.

**Booklet A: Multiple Choice Questions (20 marks)**
Questions 1 to 10 carry 1 mark each. Questions 11 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, 4) on the Optical Answer Sheet (OAS).

1) Round off 2 576 821 to the nearest hundred thousands.

   (1) 3 000 000   (2) 2 600 000

   (3) 2 580 000   (4) 2 577 000

2) Which one of the following is smaller than $\frac{1}{3}$ but larger than $\frac{1}{8}$?

   (1) 0.12   (2) 0.25

   (3) 0.375   (4) 0.667

3) Eric was born on 25 November 1998. How old will he be on 25 September 2009?

   (1) 10 yr 2 mth   (2) 10 yr 10 mth
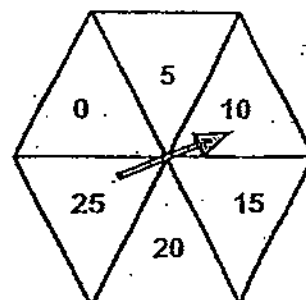
   (3) 11 yr 2 mth   (4) 11 yr 10 mth

4) The figure below is not drawn to scale. AOB is a straight line. If $\angle x$ is 36°
    bigger than $\angle y$, find the value of $\angle x$.
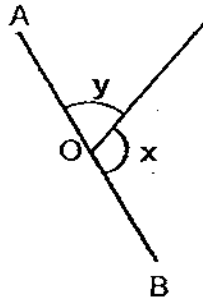
(1) 36°   (2) 72°

(3) 108°   (4) 144°

5) Divina spun the arrow head on a spinner in the clockwise direction, from
    the segment marked '0' to the segment marked "10" as shown below.
    Which one of the following is the best estimate for the angle turned by the
    spinner?
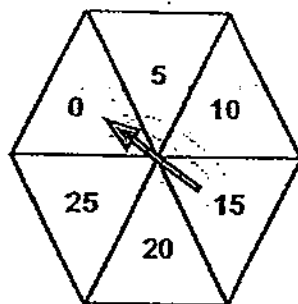
Before   After

(1) 30°   (2) 50°

(3) 120°   (4) 180°

3

6) Miriam used $\frac{1}{5}$ of the beads she bought to make a bookmark and $\frac{5}{9}$ of the remainder to make a necklace. What fraction of the beads was left?

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

(2) $\frac{4}{9}$

(3) $\frac{11}{45}$

(4) $\frac{16}{45}$

7) The mass of luggage X is $\frac{11}{5}$ of the mass of luggage Y. Find the ratio of the mass of luggage Y to the total mass of the luggage X and Y.
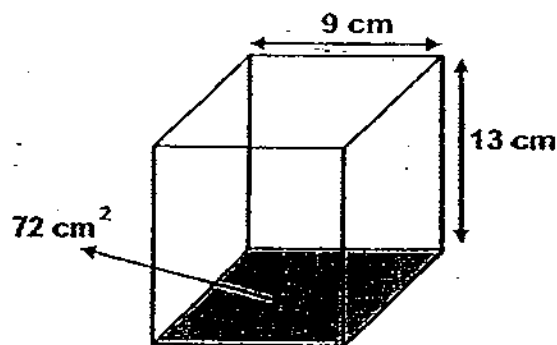
(1) 5 : 11

(2) 5 : 16

(3) 11 : 5

(4) 11 : 16

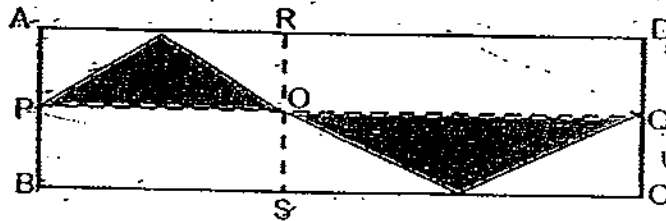8) What is the capacity of the container shown below?

(1) 468 cm³

(2) 648 cm³

(3) 936 cm³

(4) 1053 cm³

4

9) What is the missing number in the box?

$$288 \div 6 - \boxed{?} \times 4 = 16$$

(1) 8

(2) 32

(3) 44

(4) 176

10) In the diagram shown below, ABCD is a rectangle. P and Q are midpoints of AB and CD. The total area of the shaded parts is $\frac{1}{2}$ of rectangle _____.

(1) ABCD

(2) APQD

(3) ABSR

(4) APQR

11) An insurance agent needs to meet an average sales target of $ 8000 every month from February to August. He has achieved an average of $ 7600 from February to July. What is the minimum sales he needs to achieve in the month of August sd that he can meet the average sales target?

(1) $ 2 800

(2) $ 10 000

(3) $ 10 400

(4) $48 400

5

12) 30% of Mr Chen's savings is the same as 28% of Mrs Chen's savings. If Mr Chen has saved a total of $1400, how much has Mrs Chen saved?
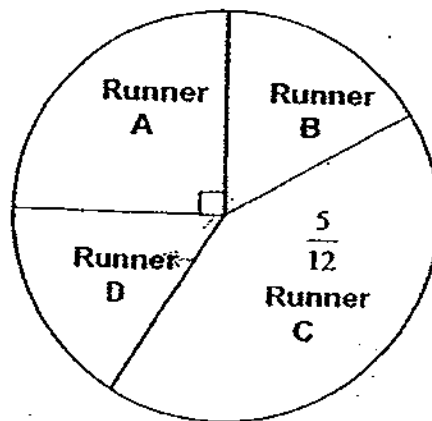
(1) $ 392

(2) $ 420

(3) $ 1500

(4) $ 5000

13) The pie chart below shows the distance covered by 4 runners in a week. Runner B covered the same distance as Runner D. If the total distance covered by the 4 runners is 168 km, find the distance covered by Runner B.


(1) 28 km

(2) 42 km

(3) 56 km

(4) 112 km

14) Kumar had a carton of 300 apples. $\dfrac{1}{5}$ of them were green and the rest were red. Kumar put in another 100 red apples. What is the ratio of the number of green apples to the number of red apples in the carton now?

(1) 8 : 17

(2) 3 : 20

(3) 3 : 17

(4) 2 : 3

15) The figure is made up of a square and a quadrant. If the square has an area of 100 cm², what is the perimeter of the shaded part?
Leave your answer in terms of π.
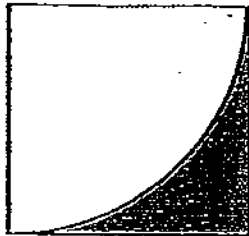
(1) $(6.25\pi + 40)$ cm

(2) $(2.5\pi + 40)$ cm

(3) $(25\pi + 20)$ cm

(4) $(5\pi + 20)$ cm

End of Booklet A

Name : _____( )

Class : Primary 6 _____

CHIJ ST NICHOLAS GIRLS' SCHOOL

Primary 6 Mathematics

Preliminary Examination – 2009

Paper 1

Booklet B

25 August 2009

Booklet A	/20
Booklet B	/20
Total	/40

TOTAL TIME FOR BOOKLETS A AND B: 50 MINUTES

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This booklet consists of 7 printed pages including the cover page.

Booklet B: Short Answers (20 marks)

Questions 16 to 25 carry 1 mark each.
Questions 26 to 30 carry 2 marks each.

Write down your answers in the answer blanks provided. Give your
answers in the units stated.

16)   What is 2 tenths more than 347.86?

Ans : _____

17)   Kim has twice as many clips as Shona. Bing has half as many clips as
Shona. Find the ratio of the number of clips Kim has to the number of clips
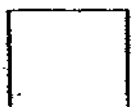Shona has to the number of clips Bing has.

Ans : _____

- 18)   The table below shows the time taken by 4 swimmers to complete 100 m
freestyle during a training session. Who is ahead of Samad by 25 seconds?

Choon Huat	190 s
Keith	110 s
Samad	2 min 15 s
Bruno	2 min 40 s

Ans : _____

19) Karin shared a cake with 4 of her friends equally. What percentage of the cake did each of them receive?
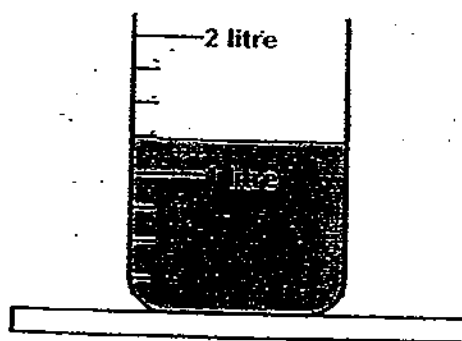
Ans: _____ %

20) Ace is 2p cm tall. His father is 3 times as tall as he is. Express the total height of the boy and his father in terms of p.
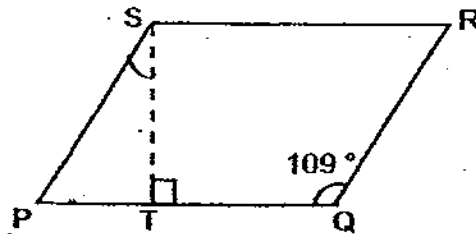
Ans: _____ cm

21) After pouring out $\frac{2}{3}$ of the water from the container, the amount of water left is shown in the diagram below. What was the original amount of water in the container?
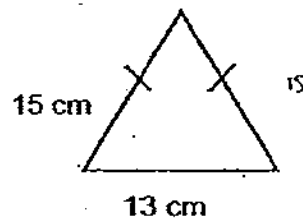

Ans: _____ ℓ

22) The figure below shows a parallelogram PQRS. Find ∠PST.

Ans: _____ °

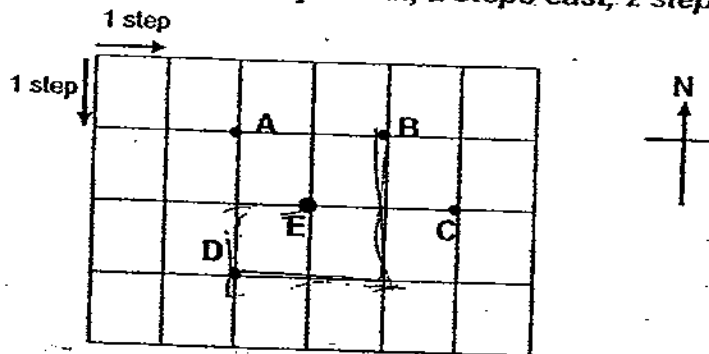23) The rectangle and isosceles triangle shown below have the same perimeter. Find the length of the rectangle.

8 cm

15 cm   15

13 cm

Ans: _____ cm

24) Mr Meng was at Point E. He walked based on the route stated below. At which point would he be in the end?

Route taken : 1 step west, 1 step south, 2 steps east, 2 steps north

Ans: _____

25) At a Lantern Festival, the number of red lanterns was $\frac{7}{15}$ of the number of yellow lanterns. After some red lanterns were given away, the number of red lanterns to the number of yellow lanterns became 1 : 4. What fraction of the red lanterns was given away?

Ans: _____

26) Kris was travelling from City A to City B. She took 2 hours to drive $\frac{2}{5}$ of the journey. She drove the remaining 270 km in 80 km/h. Find her average speed for the first $\frac{2}{5}$ of the journey.

Ans : _____ km/h

27) The table below shows the postage rates for sending parcels to Japan. How much postage would Deirdre have to pay for sending a parcel with a mass of 22 kg to Japan?

Mass of Parcel	Postage
First 5 kg	$30
Additional 2 kg or part thereof	$5

Ans: $_____

13

28) Nordin was arranging 400 packets of biscuits for a sale. He put 52 packets into a basket and displayed 25 % of the remaining packets on the shelves. What percentage of all the packets of biscuits did Nordin display on the shelves?
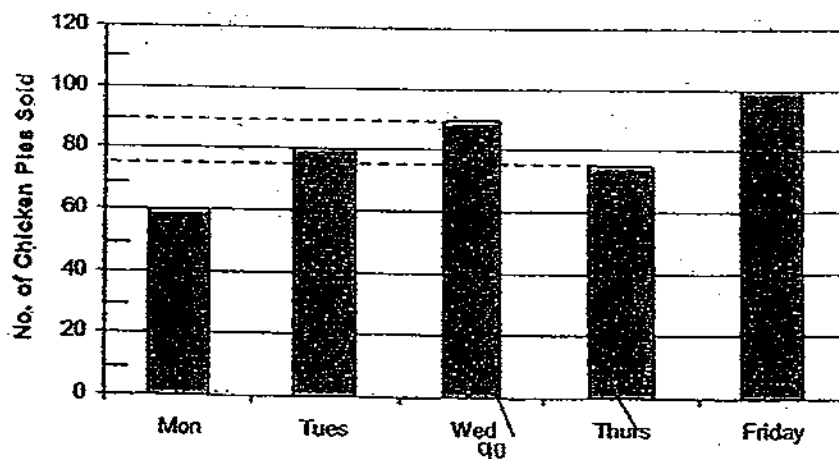
Ans:_____%

29) There were 1960 workers in a garment factory this year. This is 840 less than that of last year. Find the percentage decrease in the number of workers.

Ans: _____%

30) The graph below shows the number of chicken pies sold in a bakery from Monday to Friday. If the chicken pies are sold at 3 for $4, what was the total amount received by the bakery on Wednesday and Thursday?

Ans : $_____

End of Paper 1

14

Name : _____ ( )

Class : Primary 6 _____

CHIJ ST NICHOLAS GIRLS' SCHOOL

Primary 6 Mathematics

Preliminary Examination 2009

Paper 2

25 August 2009

Paper 1	40
Paper 2	60
Total Marks	100

Parent's/Guardian's Signature

TOTAL TIME FOR PAPER 2 : 1 HOUR 40 MINUTES

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This booklet consists of 15 printed pages including the cover page.

Short Answers (10 marks)
Questions 1 to 5 carry 2 marks each.
Write your answers in the answer blanks provided.
Give your answers in the units stated.

1)   Mrs Tullig drives at 72 km/h from her office to her son's school in
       50 minutes' time. If she were to drive at 18 km/h faster, how much
   time would she take?

                                        Ans : _____ h

2)   What is the maximum number of circles of radius 4 cm that be cut from
       a piece of cardboard 45 cm by 61 cm?

                                        Ans : _____

3)   Edgar wanted to cut a piece of twine into two smaller pieces. At first,
       he wanted the first piece of twine to be 210 cm long. Then he changed
       his mind and decided to shorten it by 20 cm. This would increase the
       length of the second piece of twine by 8%. What was the length of the
       whole piece of twine before Edgar cut it?

                                        Ans : _____ cm
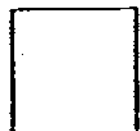
4) There are basketballs, tennis balls and volleyballs in the PE room. 56 of them are basketballs and the remaining 171 balls are tennis balls and volleyballs. The number of volleyballs is $\frac{9}{10}$ of the number of tennis balls. How many more tennis balls than basketballs are there?

Ans : _____

5) 1 kg of escargoes cost $85. $\frac{1}{5}$ kg of escargoes cost as much as $\frac{1}{4}$ kg of oysters. How much will 1 kg of oysters cost?

Ans : $ _____

3

Long Answers (50 marks)

For questions 6 to 18, show your working clearly in the space below each question and write your answer in the spaces provided. The number of marks available is shown in the brackets [   ] at the end of each question or part-question.

6   (a)   In the space below, draw an isosceles triangle PQR in which

PR = QR, QR = 5 cm and ∠PQR = 50°. The line PR has been

drawn for you. Mark ∠PQR clearly.

P   5 cm   R   [2 m]

(b)   Measure and write down the length of PQ.

Ans: (b) _____ [1 m]

4

7) The figures below, X and Y, are two identical isosceles triangles. Both figures contain a square of a different size. Given that the area of the square in Figure X is 360 cm², find the area of the square in Figure Y.
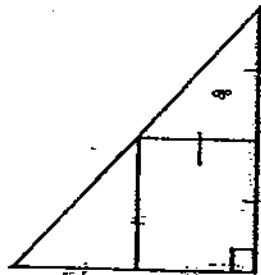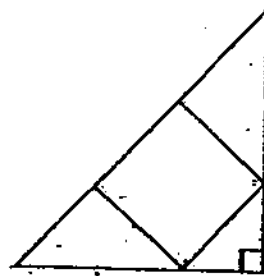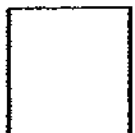
Figure X   Figure Y

Ans: _____ [3 m]

8) Lanoo exercised for a total of $(4r + 90)$ min in a week. For the first three days, he exercised for r minutes per day. For the next two days, he exercised for 35 minutes per day. For how long did he exercise for the rest of the week?

Ans: _____ (3 m)

9) The figure below is not drawn to scale. PQRS is a square and CBRD is a rectangle. BRE is a straight line. Given that ∠DRF = 136° and ∠SHD = 129°, find the ratio of ∠HRB to ∠ERF.
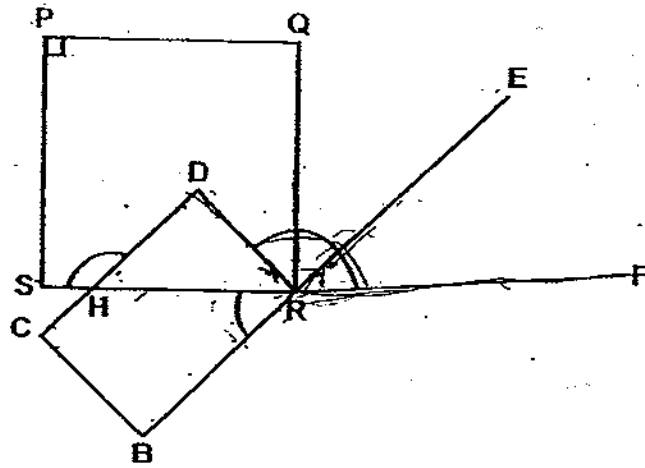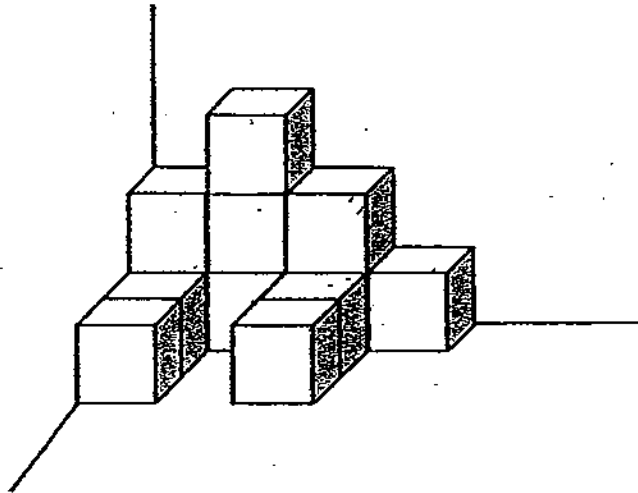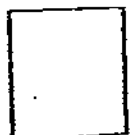
Ans: _____ [3 m]
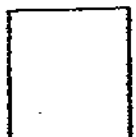
10) The solid figure below is made up of identical cubes. It has a volume of 768 cm³. When some more cubes are added to the solid figure, the total volume of the new solid figure becomes 1088 cm³. How many cubes are added to the solid figure?
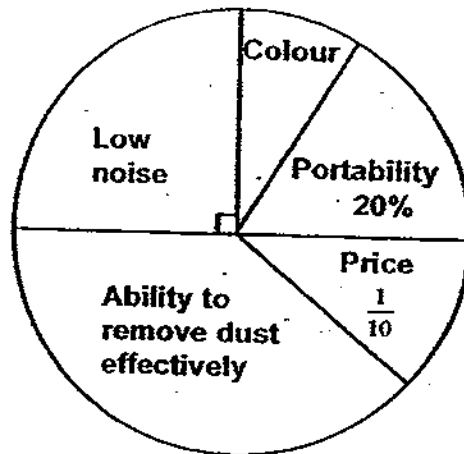
Ans: _____ [3 m]

11) A group of 260 consumers participated in a survey where they were asked to choose the most important factor of consideration when purchasing a vacuum cleaner. The pie chart below represents their choices. Use it to answer (a), (b) and (c).

(a) What percentage of all the consumers chose "Colour" as the most important factor of consideration?

(b) How many consumers chose "Ability to remove dust effectively"?

(c) Among all the consumers who chose "Ability to remove dust effectively", the number of males to that of females was in the ratio 6 : 7. Among the females, 27 of them are home-makers. How many of the females are not home-makers?
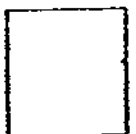
Ans: (a) _____ [1 m]

(b) _____ [1 m]

(c) _____ [2 m]

8

12) Mrs Ker had a bag of brown sugar. After she used some of the brown sugar, she had $\frac{2}{3}$ of the brown sugar left. Then she distributed $\frac{1}{4}$ of what she had left equally between her neighbours, Mrs Dee and Mrs Bheem. Finally, Mrs Ker had 437.5 g of brown sugar more than Mrs Bheem. How much brown sugar did Mrs Ker use? Leave your answer in g.
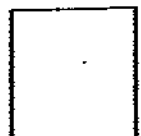
Ans: _____ [4 m]

13) Korey's allowance to Skyler's allowance was in the ratio 10 : 11. Both of them spent an equal amount. Then Korey's remaining allowance was $\frac{7}{9}$ of Skyler's remaining allowance. What percentage of Skyler's allowance did she spend? Leave your answer correct to 2 decimal places.
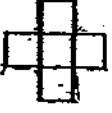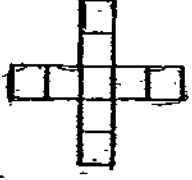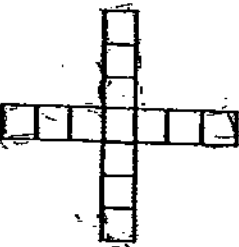
Ans: _____ [4 m]

14) Each of the figures in the table below is made up of 3-cm squares. Study the pattern carefully and answer (a) and (b).

	Figure 1	Figure 2	Figure 3
Area (cm²)	45	81	117
Perimeter (cm)	36	60	84

(a) What is the area of Figure 9?

(b) Find the perimeter of the figure which has an area of 405 cm².

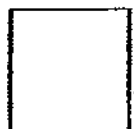Ans: (a) _____ [2 m]

(b) _____ [2 m]

15) A bullet train took 5 hours to travel from Patient Town to Honest Town while an electric train took 4 hours longer to travel from Honest Town to Patient Town. Both trains set off at the same time and moved towards each other. Two hours later, they were 255 km apart. What was the speed of the electric train?
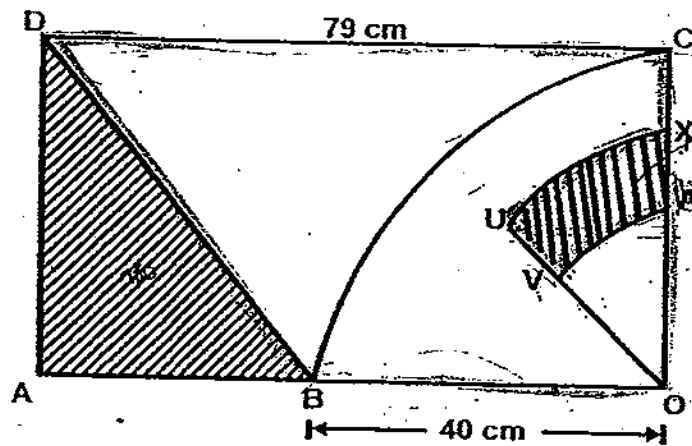
Ans: _____ [5 m]

16) The diagram below shows a rectangle AQCD with a quadrant BOC enclosed in it. CX = XW and CW = WO. UXO is $\frac{1}{8}$ of another circle which has XO as its radius. Find the total area of the unshaded parts. (Take $\pi = 3.14$)

Ans: _____ [5 m]

17) At Carpark P, the number of lorries to that of vans was in the ratio 3 : 7. At Carpark Q, the number of lorries to that of vans was in the ratio 8 : 9. When 40% more lorries from an industrial park entered Carpark P, and 20% of the vans at Carpark Q moved to Carpark P, there were 76 fewer lorries at Carpark P than at Carpark Q. How many vehicles were there altogether at the two carparks finally?

Ans: _____ [5 m]

14
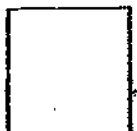
18) A rectangular tank with dimensions 130 cm by 100 cm by 210 cm was 30% filled with water. 8 identical pails of water, completely filled, were scooped out from it and this resulted in a drop of the water level to 38 cm. The remaining amount of water was transferred into a cubical tank containing 39 ℓ of water. The water was then drained out through a tap at the bottom of the cubical tank at 13 ℓ per minute.

(a) What is the capacity of each pail?

(b) How long did it take to drain the water from the cubical tank completely?

Ans: a) _____[2 m]

b) _____[3 m]

End of Paper

<u>EXAM PAPER 2009</u>
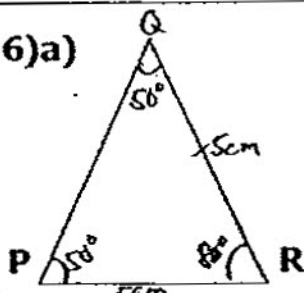
SCHOOL : CHIJ PRIMARY
SUBJECT : PRIMARY 6 MATHEMATICS

TERM : SA2

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10	Q11	Q12	Q13	Q14	Q15
2	2	2	3	3	4	2	3	1	2	3	3	1	3	4

16)348.06   17)4:2:1   18)Keith   19)20%   20)8p cm

21)3.75L   22)19°   23)13.5cm   24)B   25)13/28

26)90km/h   27)$75   28)21.75%   29)30%   30)$220

Paper 2

1)50/60 x 72=60 　72+18=90 　60/90 x 60=40 　40/60→2/3h	2)4+4=8 　45÷8≈5 　61÷8≈7 　7x5=35
3)100/8 x 20=250 　250+210=460cm	4)10+9=19 　171÷19=9 　9x10=90 　90-56=34
5)85÷5=17 　17x4=$68	6)a)　　　　　　　　　　b)6.4cm

7)360x2=720
  720÷9=80
  80x4=320cm₂
	8)rx3=3r
	  35x2=70
	  (4r+90)-3r-70=(r+20)min

9)51:46	10)768÷12=64
	  1088-768=320
	  320÷64≈5

11)a)50%-25%-20%=5%
  b)50%-10%=40%
    40/100x260=104
  c)6+7=13
    104÷13=8
    8x7=56
    56-27=29
	12)6-1=5
	  437.5÷5=87.5
	  87.5x8=700
	  700÷2=350g

13)59.09%	14)a)9x4=36
	    36+1=37
	    37x9=333cm₂
	  b)405÷9=45
	    12x3=36
	    45-4-1=40
	    40÷4=10
	    10x2=20
	    20x3=60
	    60x4=240
	    240+30=276cm

15)75km/h	16)2183.75cm₂
17)564	18)a)40625cm₃ b)41min