Rosyth School
First Semestral Assessment 2015
Primary 6 Mathematics

Name: _____ Register No. _____

Class: Pr 6 - _____

Date: 12th May 2015 Parent's Signature: _____

Total Time for Booklets A and B : 50 minutes

PAPER 1
(Booklet A)

Instructions to Pupils:

1. Do not open this booklet until you are told to do so.
2. Follow all instructions carefully.
3. Shade your answers in the Optical Answer Sheet (OAS) provided.
4. You are not allowed to use a calculator.
5. Answer all questions.

Section	Maximum Mark	Marks Obtained
Paper 1 (Booklet A)	20	

* This booklet consists of 7 pages (including this cover page)

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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 oval (1, 2, 3 or 4) on the Optical Answer Sheet.
All diagrams are not drawn to scale unless stated otherwise.

(20 marks)

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1. Which of the following are common factors of 16 and 28?

   (1) 1 and 3
   (2) 2 and 4
   (3) 3 and 4
   (4) 4 and 7

2. 19 tenths written as a decimal is _____.

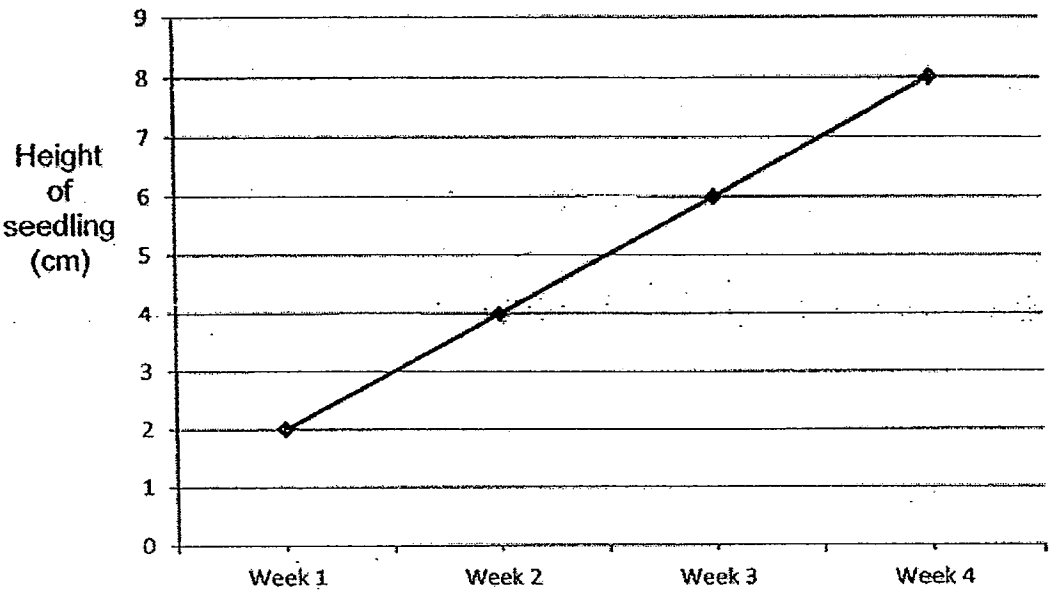
   (1) 0.19
   (2) 1.009
   (3) 1.9
   (4) 10.9

3. Simplify the algebraic expression $k + 9 + 2k - 2$.

   (1) $3k - 7$
   (2) $3k + 7$
   (3) $3k - 11$
   (4) $3k + 11$

(Go on to the next page)

4. The graph below shows the growth of a seedling over four weeks. The height of the seedling was recorded at the end of each week.



What was the increase in the height of the seedling from Week 2 to Week 3?

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

5. The average mass of 4 boxes is 20.5 kg. The first two boxes have the same mass of 20 kg each. The third box is 18 kg. What is the mass of the last box?

(1) 24 kg
(2) 42 kg
(3) 44 kg
(4) 58 kg

(Go on to the next page)

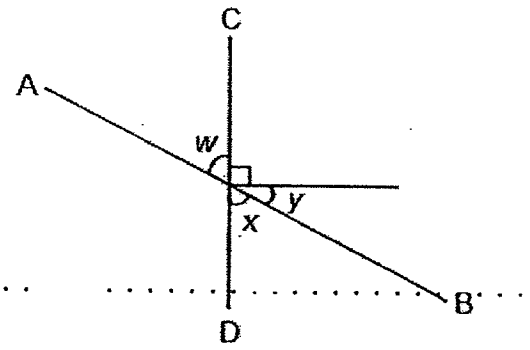
6. Every 100 g of sweets cost $1. Meiling bought 2.5 kg of such sweets. How much did she pay?

(1) $2.50
(2) $10
(3) $25
(4) $250

7. Mr Lee cycled from home to work on Monday. He took 36 minutes to reach his work place. He reached the work place at 8.15 a.m. What time did he leave his home?

(1) 7.24 a.m.
(2) 7.39 a.m.
(3) 8.19 a.m.
(4) 8.51 a.m.

8. In the diagram below, AB and CD are straight lines. Which of the following is correct?



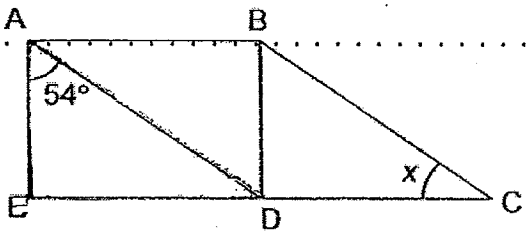
(1) $w = 180° - x$
(2) $w = 180° - y$
(3) $w = 90° - x$
(4) $w = 90° - y$

(Go on to the next page)

9. In a class of 40 students, $\frac{5}{8}$ of them were girls. $\frac{1}{5}$ of the boys did not wear glasses. How many boys wear glasses?

(1) 8
(2) 12
(3) 3
(4) 15

10. ABDE is a rectangle and ABCD is a parallelogram. Find $\angle x$.



(1) 36°
(2) 45°
(3) 54°
(4) 144°

11. Mr Raja takes 4 days to make 3 wooden stools. What is the minimum number of weeks he needs to make 78 such stools?

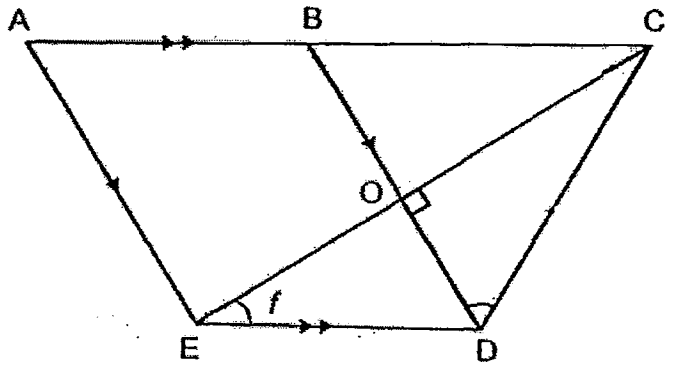
(1) 14
(2) 15
(3) 20
(4) 26

(Go on to the next page)

12. The ratio of the area of a square to the area of a rectangle is 2 : 3. The side of the square is 6 cm. The length of the rectangle is 9 cm. What is the perimeter of the rectangle?

(1) 15 cm
(2) 24 cm
(3) 30 cm
(4) 54 cm

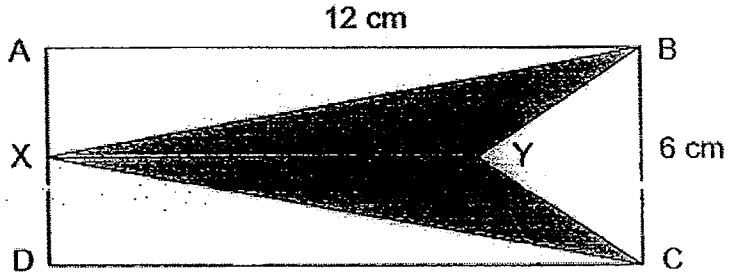
13. In the figure below, ABDE is a parallelogram and BCD is an equilateral triangle. ABC, COE and BOD are straight lines. Find $\angle f$.



(1) 30°
(2) 45°
(3) 60°
(4) 120°

(Go on to the next page)

14. ABCD is a rectangle and point X is the mid-point on line AD. Line XY is $\frac{2}{3}$ the length of line AB. Find the shaded area.



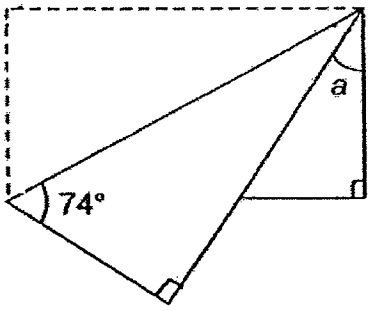
(1) 12 cm^2

(2) 24 cm^2

(3) 36 cm^2

(4) 72 cm^2

15. A rectangular piece of paper was folded as shown below. Find $\angle a$.



(1) 16°

(2) 32°

(3) 58°

(4) 74°

(Go on to Booklet B)

Rosyth School
First Semestral Assessment 2015
Primary 6 Mathematics

Name: _____ Register. No. _____

Class: Pr 6 -_____

Date: 12th May 2015 Parent's Signature: _____

Total Time for Booklets A and B : 50 minutes

PAPER 1

(Booklet B)

Instructions to Pupils:

1. Do not open this booklet until you are told to do so.
2. Follow all instructions carefully.
3. You are not allowed to use a calculator.
4. Answer all questions.

Section	Maximum Mark	Marks Obtained
Paper 1 (Booklet B)	20	

* This booklet consists of 8 pages (including this cover page)

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Questions 16 to 25 carry 1 mark each. Write your answers in the spaces provided.
For questions which require units, give your answers in the units stated.
All diagrams are not drawn to scale unless stated otherwise.

(10 marks)

16. Arrange the following numbers in order from the greatest to the smallest.

10.02 , 1.202 , 1.2 , 10.202

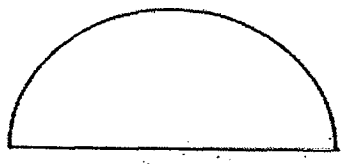
_____ , _____ , _____ , _____

greatest

17. What is the volume of a cube with side 4 cm?

Ans: _____ cm^3

18. What is the perimeter of the semi-circle as shown below? (Take $\pi = 3.14$)



Ans: _____ cm

(Go on to the next page)

19. Jia Ming, Mary and Fatimah shared $4\frac{1}{2}$ kg of grapes equally among themselves. How much grapes did each of them get?
Give your answer in the simplest form.

Ans: _____ kg

20. Express 500 m as a percentage of 2 km.

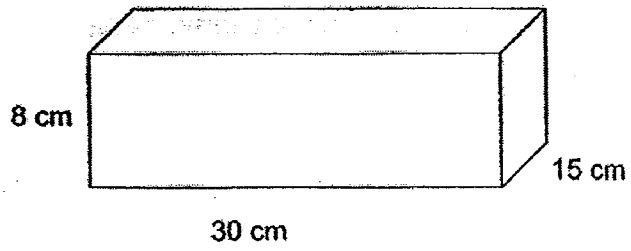
Ans: _____%

21. The total length of 8 pieces of ribbons is 860 m.
What is the average length of the ribbons in metres and centimetres?

Ans: _____m_____cm

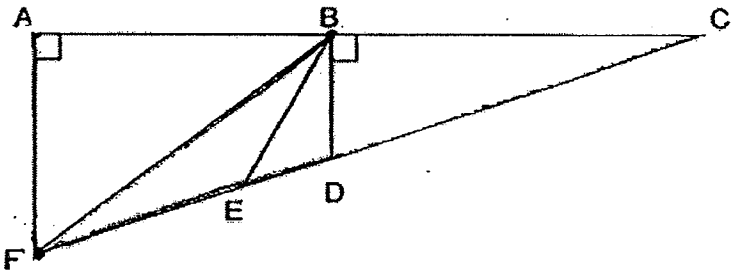
(Go on to the next page)

22. The rectangular tank as shown below is half-filled with water.
What is the volume of the water in the tank?



Ans: _____ cm^3

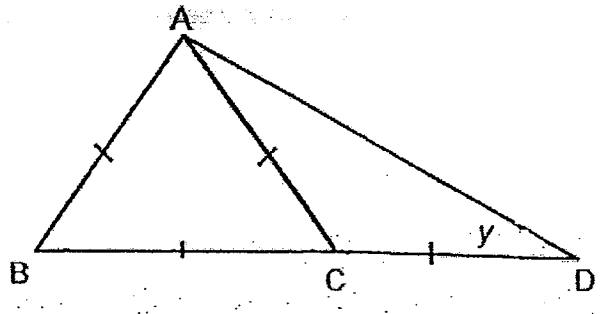
23. Name the height of triangle BCF.



Ans: _____

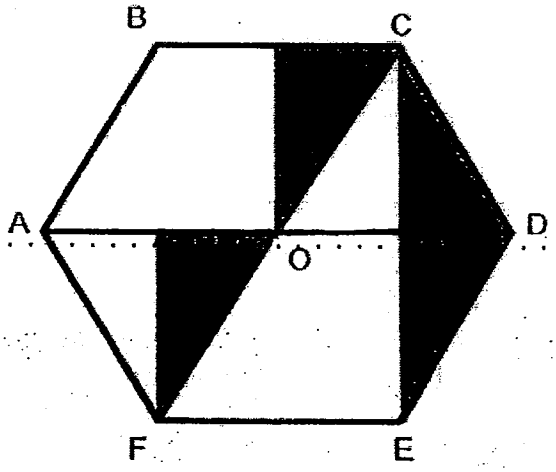
(Go on to the next page)

24. The figure below is not drawn to scale. ABC is an equilateral triangle and AC = CD. Find the value of $\angle y$.



Ans: _____ °

25. ABCD and DEFA are 2 identical trapeziums. What fraction of the figure is shaded? Leave your answer in the simplest form.



Ans: _____

(Go on to the next page)

Questions 26 to 30 carry 2 marks each. **Show your workings clearly** in the space provided for each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated.

All diagrams are not drawn to scale unless stated otherwise.

(10 marks)

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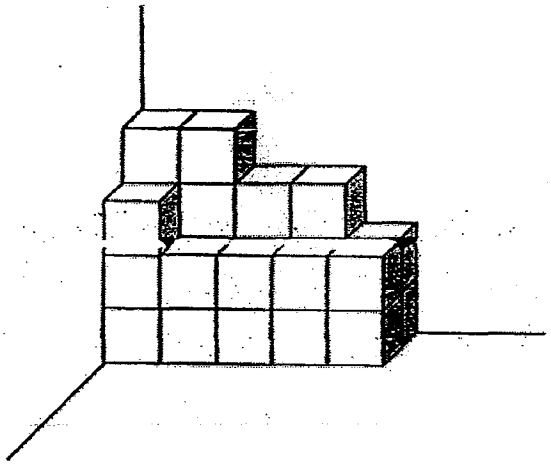
26. Aini, Bobby and Cai Hong have some marbles. Aini and Bobby have 70 marbles. Bobby and Cai Hong have 65 marbles. Cai Hong and Aini have 55 marbles. How many marbles do they have altogether?

Ans: _____

27. Alynna stacks some unit cubes at a corner of a room as shown below. To form a bigger cube, what is the least number of unit cubes that she has to add?

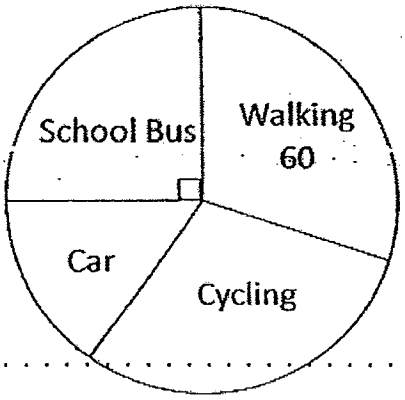


Ans: _____

(Go on to the next page)

28. The pie chart below shows how 200 students commute to school. The number of students walking to school and the number of students cycling to school are the same. How many students go to school by car?

Mode of Transport to School



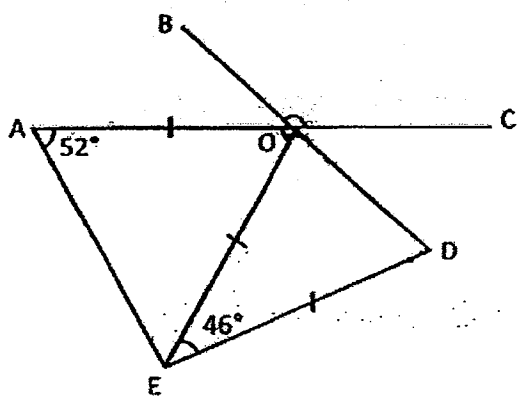
Ans: _____

29. Ron is 10 years old now. Two years ago, his cousin was m years younger than him. What would be their combined age three years later?

Ans: _____

(Go on to the next page)

30. In the figure below, AOE and ODE are isosceles triangles. AOC and BOD are straight lines. Find the value of $\angle BOC$.



Ans: _____ °

End of Booklet B

Rosyth School
First Semestral Assessment 2015
Primary 6 Mathematics

Name: _____ Register No. _____

Class: Pr 6 - _____

Date: 12th May 2015 Parent's Signature: _____

Time: 1h 40mins

PAPER 2

Instructions to Pupils:

1. Do not open this booklet until you are told to do so.
2. Follow all instructions carefully.
3. **Show your workings clearly** as marks are awarded for correct working.
4. Write your answers in this booklet.
5. You are allowed to use a calculator
6. Answer all questions.

Questions	Maximum Mark	Marks Obtained
Q 1 to 5	10	
Q 6 to 18	50	

Section	Maximum Mark	Marks Obtained
Paper 1	40	
Paper 2	60	
Total	100	

*** This booklet consists of 18 pages (including this cover page)**

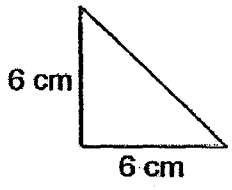
Questions 1 to 5 carry 2 marks each. Show your working clearly in the space provided for each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated.
All diagrams are not drawn to scale unless stated otherwise. (10 marks)

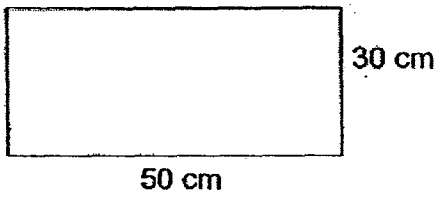
Do not write in this space

1. Amrul bought two books of the same price and paid $40 after a 20% discount. What is the price of a book before the discount?

Ans: $_____

2. Gina wanted to cut triangles as shown below from a rectangular piece of paper. If the paper measured 50 cm by 30 cm, what is the maximum number of triangles that can be cut from it?



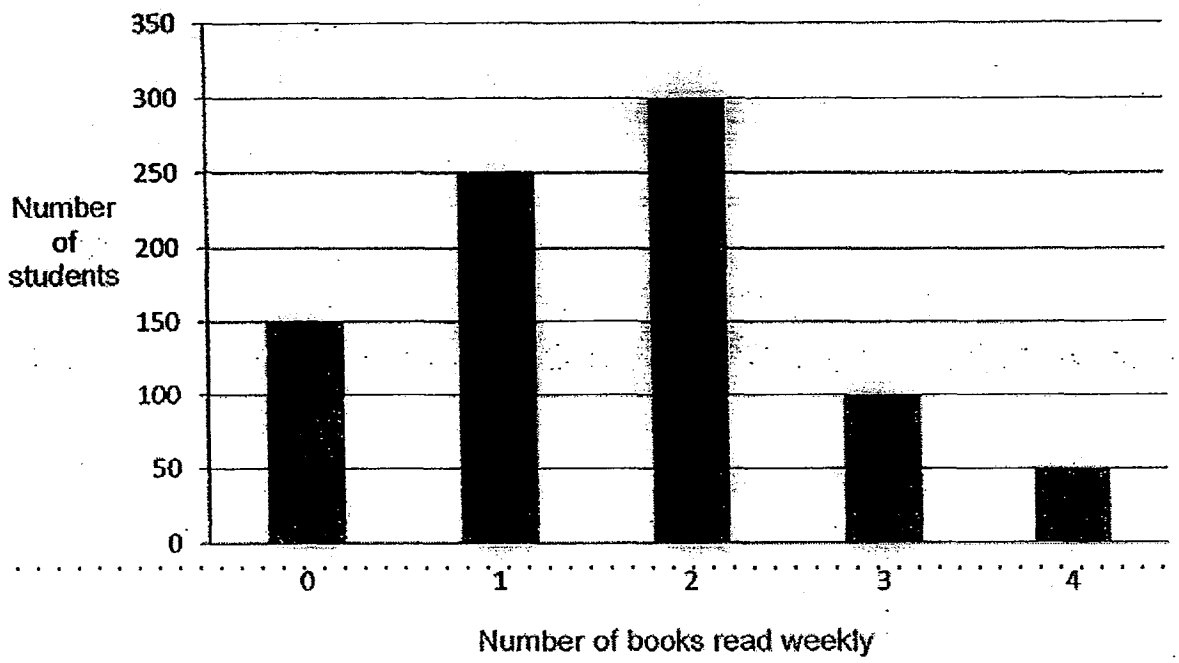


Ans: _____

(Go on to the next page)

3. The bar graph below shows the number of books read weekly by a group of students in a survey.

Do not write in this space



What was the average number of books read by the students in the survey? Give your answer correct to 1 decimal place.

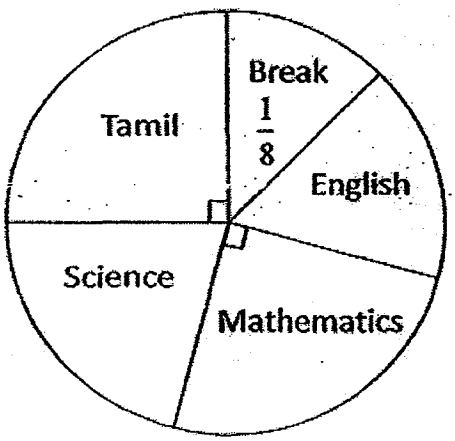
Ans: _____

(Go on to the next page)

4. The pie chart below shows how Nisha spent her 4 hours daily to do her revision for each subject. She spent 10 more minutes revising for Science than for English. How many minutes did she spend revising for Science?

Do not write in this space

Nisha's Daily Revision Schedule



Ans: _____minutes

(Go on to the next page)

5. Mrs Lim had $3\frac{1}{6}$ kg of sugar. She used $\frac{1}{4}$ of it to bake cookies. She used another $\frac{1}{2}$ kg to make cupcakes. How many kilogrammes of sugar was left? Give your answer in the simplest form.

Do not write in this space

Ans: _____ kg

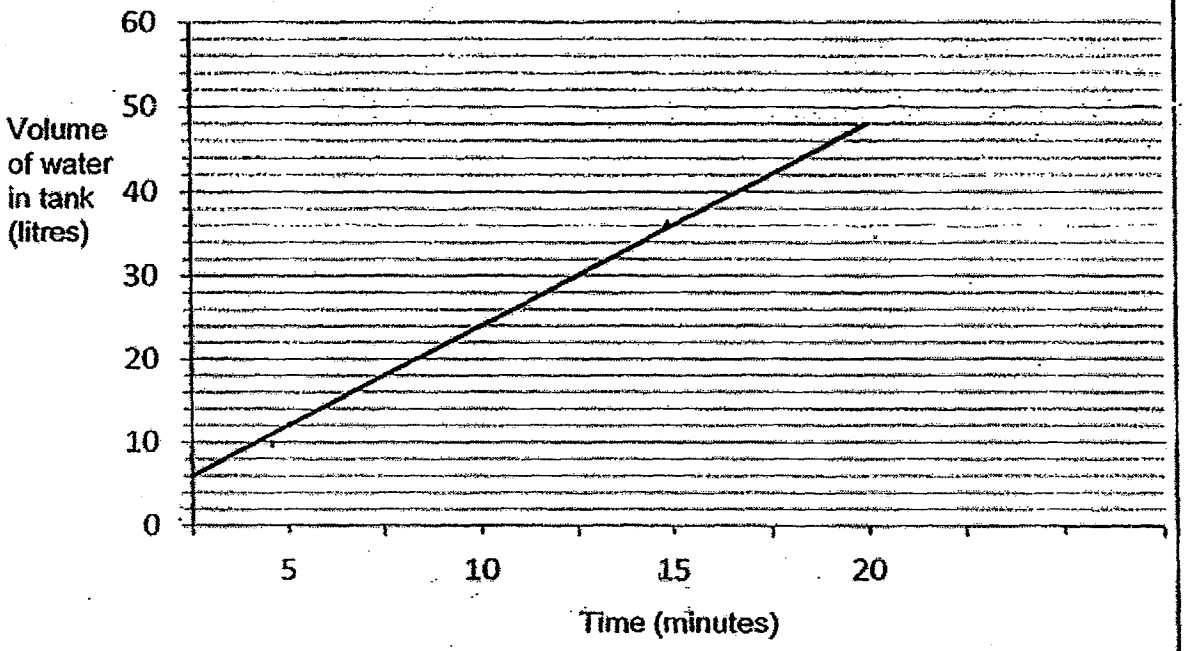
(Go on to the next page)

Questions 6 to 18, show your working clearly in the space provided for 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.

(50 marks)

Do not write in this space

6. The line graph below shows the volume of water in a tank when the tap was turned on for 20 minutes. The tank was filled completely with water at the end of 20 minutes.



(a) What was the volume of water in the tank before the tap was turned on?

(b) What was the amount of water that flowed into the tank per minute?

Ans: (a)_____ [1]

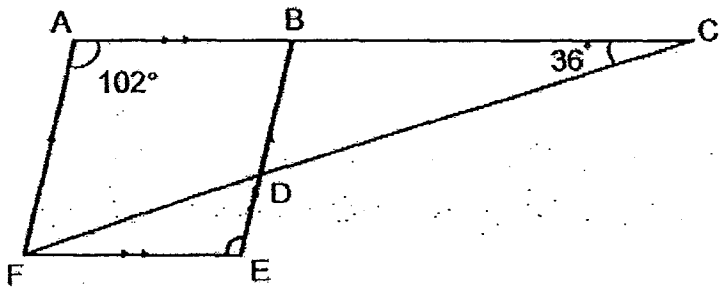
Ans: (b)_____ [2]

(Go on to the next page)

7. In the figure below, ABEF is a rhombus and BCD is a triangle. ABC and CDF are straight lines.

Find (a) ∠BDC

(b) ∠DFE



Do not write in this space

Ans: (a)_____[2]

Ans: (b)_____[1]

(Go on to the next page)

8. Mr Raman spent $1200 on a dining set and 40% of his remaining money on a shoe rack. If he had 15% of his money left, how much money did he have at first?

Do not write in this space

Ans: _____[3]

(Go on to the next page)

9. Amanda wanted to buy some files which are of the same price. If she bought 16 such files, she would have $18 left over. If she bought 24 such files, she would have $6 left over. How much money did Amanda have?

Do not write in this space

Ans: _____ [3]

(Go on to the next page)

10. Leonard had some 50-cent coins and 20-cent coins in the ratio 7 : 4. Each day, he took out $1 worth of 50-cent coins and replaced them with $1 worth of 20-cent coins. After 12 days, he had an equal number of 20-cent coins and 50-cent coins in his box. How many 50-cent coins were left in the box after 12 days?

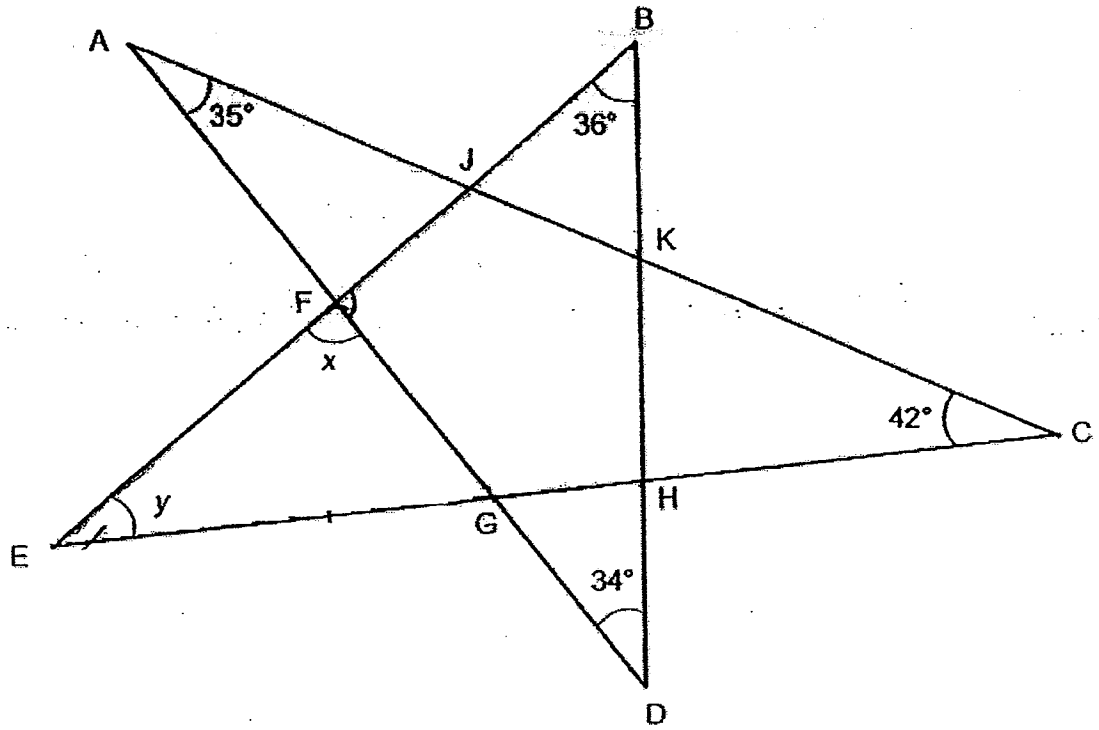
Do not write in this space

Ans: _____ [3]

(Go on to the next page)

11. In the figure below, the star is formed by 5 straight lines. AC, BD, BE, AD and EC are straight lines.

Do not write in this space



(a) Find $\angle x$.
(b) Find $\angle y$.

Ans: (a)_____[2]

Ans: (b)_____[2]

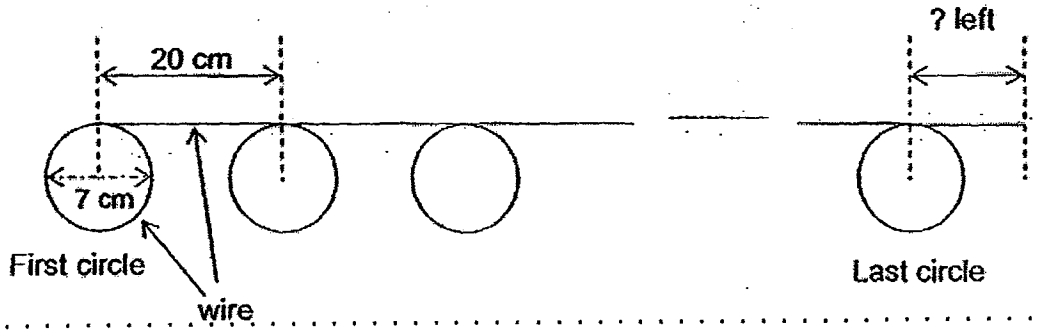
(Go on to the next page)

12. Macy made some identical circles by bending a thin wire as shown below. The diameter of each circle is 7 cm. The length of the thin wire is 5 m. The distance from the centre of one circle to the centre of the next circle is 20 cm.

Do not write in this space

(a) What is the length of wire left after the last circle?
(b) How many circles did she bend?

(Take π as $\frac{22}{7}$)



Ans: (a)_____ [3]

Ans: (b)_____ [1]

(Go on to the next page)

13. Malik gave 20% of his erasers to Kaizhong. Kaizhong then gave away 40% of what he received from Malik to John.
(a) What percentage of Malik's erasers did John receive?
(b) If John received 56 erasers from Kaizhong, how many erasers had Malik left?

Do not write in this space

Ans: (a)_____ [2]

Ans: (b)_____ [2]

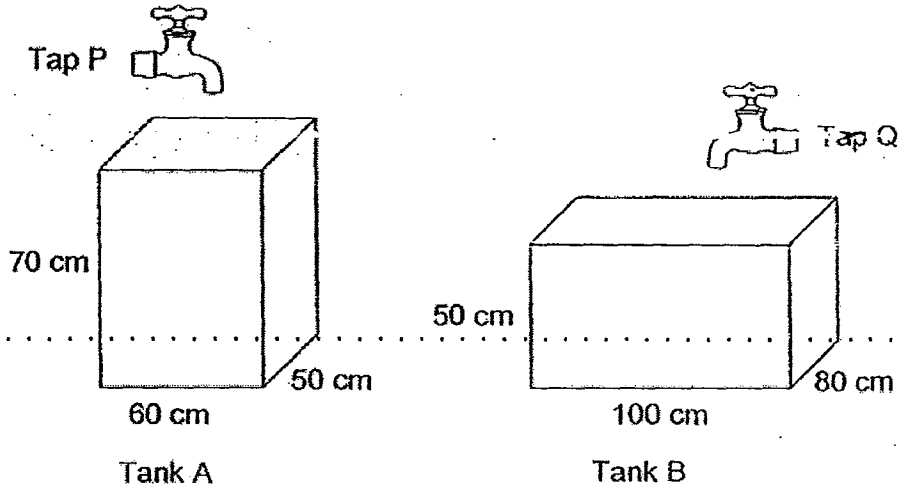
(Go on to the next page)

Do not write in this space

14. Tank A is $\frac{3}{4}$ filled with water. Half of its water is then poured into an empty Tank B. Two taps were turned on at the same time to fill up both tanks. Tap P had water flowing out at 1.05 litres per minute.

(a) How much water was poured from Tank A to Tank B?

(b) How much water should be flowing out of Tap Q per minute so that both tanks can be filled to the brim with water at the same time?



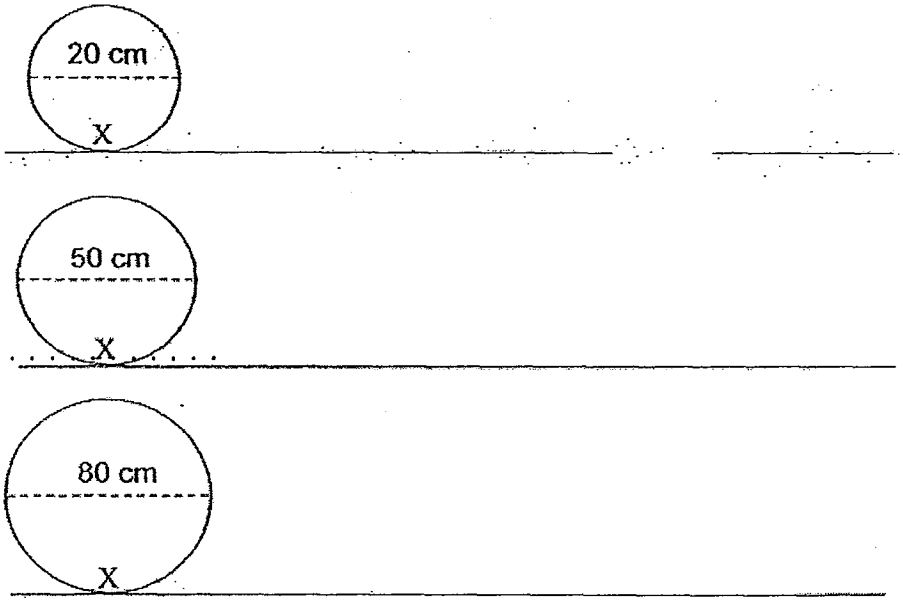
Ans: (a)_____[2]

Ans: (b)_____[3]

(Go on to the next page)

15. Three circular discs are placed along three identical paths as shown below. There is a spot marked "X" on each disc. The three discs have diameters of 20 cm, 50 cm and 80 cm respectively. If they start to roll at the same time, what is the total distance covered by all the discs when the spot marked "X" on the three discs next touch the path at the same time? Give your answer in terms of π.

Do not write in this space



Ans: _____ [3]

(Go on to the next page)

16. $\frac{3}{8}$ of the can drinks in a box were Lemon Fizz and the rest were Orange Fizz. Joy took 18 cans of the Lemon Fizz from the box. Crystal took $\frac{3}{4}$ of the cans of Orange Fizz from the box. After that, $\frac{1}{4}$ of the can drinks remained in the box. How many can drinks were removed from the box by Joy and Crystal?

Do not write in this space

Ans: _____ [5]

(Go on to the next page)

17. Fatimah had 217 more red apples than green apples. After selling $\frac{2}{7}$ of the red apples and half of the green apples, she had 376 apples left.

(a) How many apples did she have at first?

(b) How many red apples did she sell?

Do not write in this space

Ans: (a)_____ [3]

Ans: (b)_____ [2]

(Go on to the next page)

18. Kate had twice the number of toy bricks as Jake. Jake used all his bricks to build 5 identical cars. Kate used all her bricks to build 7 identical cars. Kate used 9 more bricks than Jake for each car. How many bricks did Kate have?

Do not write in this space

Ans: _____ [5]

End of Paper

Check your work carefully.

ROSYTH SCHOOL
SA1 2015
P6 MATHEMATICS

Paper 1

1) 2 2) 3 3) 2 4) 2 5) 1 6) 3 7) 2
8) 4 9) 2 10) 1 11) 2 12) 3 13) 1 14) 2
15) 3

16) 10.202, 10.02, 1.202, 1.2

17) 4x4x4 = 64 cubic cm

18) Perimeter = 1/2x3.14x20+20 = 51.4 cm

19) 4/1/2÷3 = 1/1/2 kg

20) 500/2000x100% = 25%

21) 860÷8 = 107.5 m = 107 m 50 cm

22) 30x15x4 = 1800 cubic cm

23) AF

24) 60°÷2 = 30°

25) 1/3

26) A+B = 70
B+C = 65
C+A = 55
2A+2B+2C = 70+65+55 = 190
A+B+C = 190÷2 = 95 marbles

27) 5x5x5-27 = 125-27 = 98 unit cubes to be added

28) 200-60-50-60 = 30 students go to school by car

29) 10-m+10+6 = (26-m) years old in 3 years'

30) Angle AOE = 180°-52°-52° = 76°
Angle EOD = (180°-46°)/2 = 67°
Angle BOC = 76°+67° = 143°

Paper 2

1) 80% -- $20
100% -- 100/80x20 = $25

2) 50÷6 = 8 R2
30÷6 = 5
8x5x2 = 80

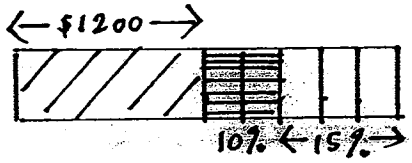
3) (250+600+300+200)÷(150+250+300+100+50) = 1.6

4) (90-10)÷2 = 40 (English)
40+10 = 50 minutes

5) 1/4x3/1/6 = 19/24 kg
19/24+1/2 = 1/7/24 kg
3/1/6-1/7/24 = 1/7/8 kg

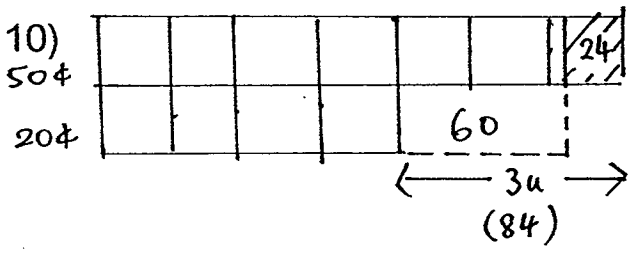
6a) 6 litres
b) (48-6)÷20 = 2.1 litres/min

7a) 42°
b) 36°

8) 

15%÷3x2 = 10%
100%-10%-15% = 75%
75% -- $1200
100% -- 100/75x1200 = $1600

9) 24f-16f = 8f
$18-$6 = $12
$12÷8 = $1.50 (cost of 1 fie)
$1.50x16 + $18 = $42

10) 

3u -- 60+24 = 84
7u -- 7÷3x84 = 196
196-24 = 172 fifty cent coins

11) Angle x = 36°+34° = 70°
Angle EGF = 35°+42° = 77°
Angle = 180°-70°-77° = 33°

12a) Circumference of 1 circle = 2x22/7x7/2 = 22 cm
20+22 = 42 cm
500÷42 = 11 R38
38-22 = 16 cm
b) 11+1 =12

13a) 40/100x20 = 8%
b) 8% -- 56
80% --80/8x56 = 560 erasers left

14a) 1/2x3/4x60x50x70 = 78750 cubic cm

b) Volume of water needed in Tank A = 60x50x70 - 78750 = 131 250 cubic cm

Time taken to fill the tank = 131 250÷1050 =125 min

Volume of Tank B = 100x80x50 = 400 000 cubic cm

Volume of water needed to fill the tank = 400 000-78 750 = 321 250 cubic cm

Rate of water of Tap B = 321 250÷125 = 2570 cubic cm = 2.57 litres per min

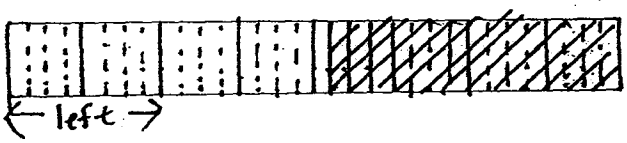
15) 2xπx10 = 20π

2xπx25 = 50π

2xπx40 = 80π

LCM = 400π

16)

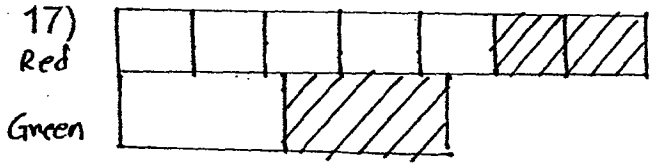


3/4X5 = 15/4 = 3/3/4

9u -- 18 cans

24u -- 24/9x18 = 48 cans

17)



5R+1G = 376

7R-2G = 217

10R+2G = 376X2 = 752

17R = 969

1R = 57

5R = 5X57 =285

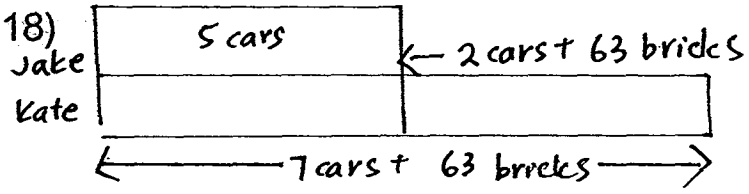
7R = 7x57 = 399

1G = 376-285 = 91

2G = 91X2 = 182

a) Number of apples at first = 399+182 = 581
b) Number of red apples sold = 57x2 = 114

18)



1u -- 5 cars = 2 cars + 63 bricks
3 cars -- 63 bricks
1 car -- 63÷3 = 21 bricks
21x7+63 = 210 bricks