

Index  
No

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**SINGAPORE CHINESE GIRLS' SCHOOL**

**PRELIMINARY EXAMINATION 2018**

**PRIMARY 6**

**MATHEMATICS  
PAPER 1**

**BOOKLET A**

Name : \_\_\_\_\_ (     )

Class : Primary 6

24 August 2018

		Marks attained	Max Mark	Parent's Signature
Paper 1	Booklet A		20	
	Booklet B		25	
Paper 2			55	
Total Marks			100	

**15 Questions  
20 Marks**

**Total Time for Booklets A and B: 50 min**

**INSTRUCTIONS TO CANDIDATES**

Do not open this booklet until you are told to do so.

Follow all instructions carefully.

Answer all questions.

You are **not allowed** to use a calculator



### **Booklet A**

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 or 4) on the Optical Answer Sheet. **(20 marks)**

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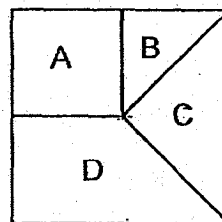
1. What is the value of the digit 7 in 507 030?
  - (1) 7
  - (2) 70
  - (3) 700
  - (4) 7000
  
2. Find the value of  $0.16 \div 40$ .
  - (1) 0.004
  - (2) 0.04
  - (3) 0.4
  - (4) 4
  
3. What is the approximate height of a flagpole?
  - (1) 45 cm
  - (2) 250 cm
  - (3) 52.5 m
  - (4) 0.15 km
  
4. Which of the following fraction is closest to  $\frac{1}{3}$ ?
  - (1)  $\frac{1}{6}$
  - (2)  $\frac{4}{9}$
  - (3)  $\frac{1}{12}$
  - (4)  $\frac{4}{15}$

5. What is the value of  $36 - 6 \div 3 + 2 \times 4$ ?

- (1) 18
- (2) 26
- (3) 42
- (4) 48

6. The square is cut from the center into 4 parts. Which of the following three parts will add up to form  $\frac{5}{8}$  of the square?

- (1) A, B and C
- (2) A, B and D
- (3) A, C and D
- (4) B, C and D

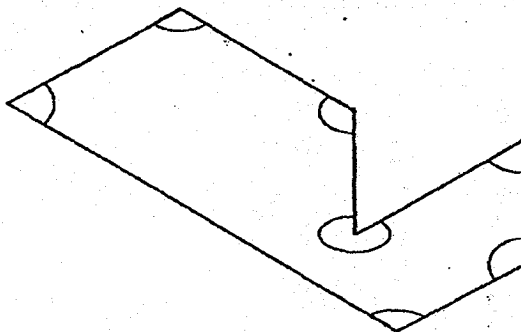


7. Find the sum of all the factors of 12.

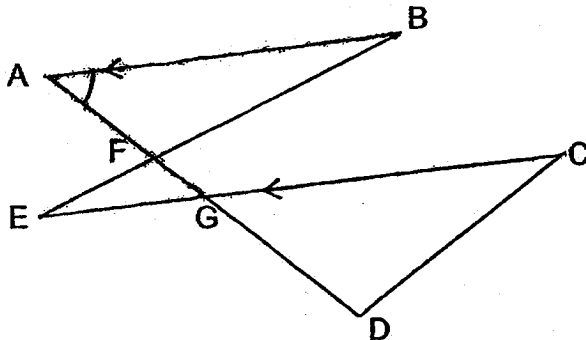
- (1) 13
- (2) 15
- (3) 27
- (4) 28

8. In the figure below, how many angles are greater than  $90^\circ$ ?

- (1) 5
- (2) 2
- (3) 3
- (4) 7



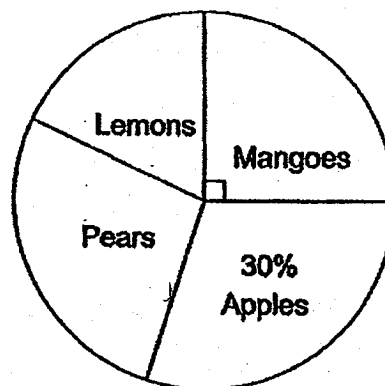
9. Which angle is similar to  $\angle BAF$ ?



- (1)  $\angle AGC$
- (2)  $\angle AGE$
- (3)  $\angle BEC$
- (4)  $\angle BFD$

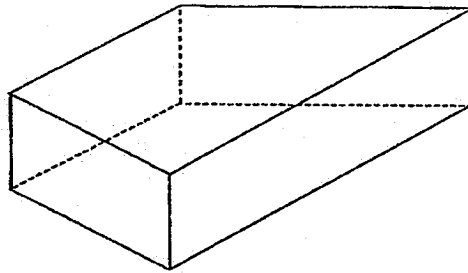
10. Mr Chong sold fruits as shown in the pie chart below. He sold  $\frac{2}{3}$  as many lemons as pears. What is the ratio of the number of apples to the number of lemons sold?

- (1) 2 : 3
- (2) 3 : 1
- (3) 3 : 2
- (4) 5 : 3

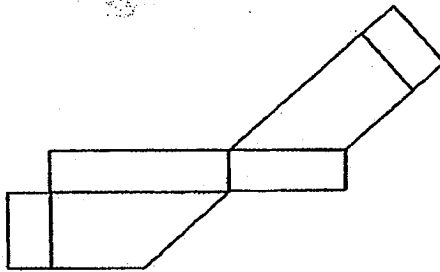


11. Kavani packed 30 sweets equally into some goodie bags. She also packed 48 chocolates equally into these ~~good~~ **goodie** bags. How many sweets and chocolates are there in each bag?
- (1) 6
  - (2) 12
  - (3) 13
  - (4) 4
12. 25% of the fruits at the fruit stall are oranges. 20% of the remainder are apples. The rest are pears. What percentage of the fruits are pears?
- (1) 5%
  - (2) 15%
  - (3) 55%
  - (4) 60%
13. Dani can read 4 pages in 18 minutes. How long will she take to finish a book with 30 pages?
- (1) 1h 15 min
  - (2) 1h 35 min
  - (3) 2 h 15 min
  - (4) 2h 35 min
14. There was a \$3 discount for every \$30 spent at a departmental store. Charlotte paid \$82 for the dress. What was the original price of that dress?
- (1) \$84
  - (2) \$88
  - (3) \$90
  - (4) \$91

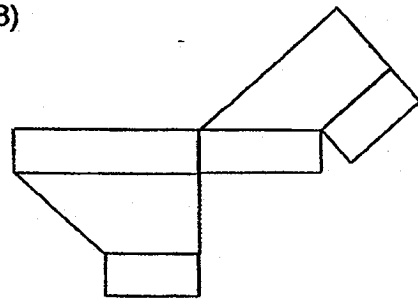
15. Which of the following is the net of the cuboid below?



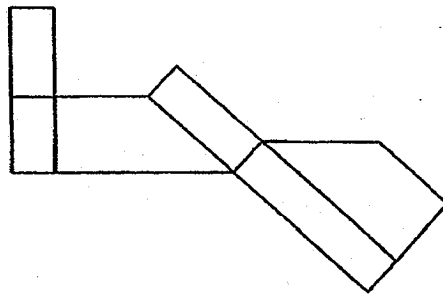
(1)



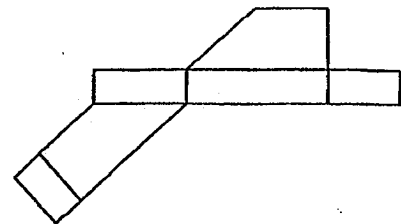
(3)



(2)



(4)



End of Booklet A





Index  
No

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**SINGAPORE CHINESE GIRLS' SCHOOL**

**PRELIMINARY EXAMINATION 2018**

**PRIMARY 6**

**MATHEMATICS  
PAPER 1**

**BOOKLET B**

**Name :** \_\_\_\_\_ (      )

**Class : Primary 6**

**24 August 2018**

Paper 1	Mark attained	Max Mark
Booklet B		25

**15 Questions  
25 Marks**

**Total Time for Booklets A and B: 50 min**

**INSTRUCTIONS TO CANDIDATES**

Do not open this booklet until you are told to do so.

Follow all instructions carefully.

Answer all questions.

You are **not allowed** to use a calculator

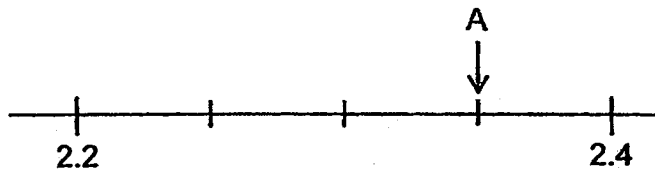


**Booklet B**

Questions 16 to 20 carry 1 mark each. Write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (5 marks)

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16. Find the value of A.



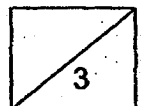
Ans: \_\_\_\_\_

17. Round off 1.095 to the nearest hundredth.

Ans; \_\_\_\_\_

18. Find the average of 1.51, 2.02 and 3.4.

Ans: \_\_\_\_\_

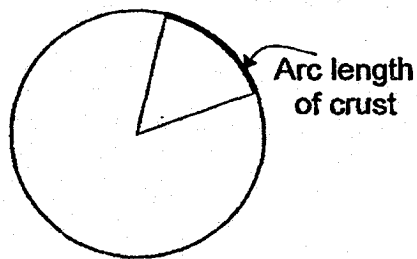


19. Express 0.85 as a percentage.

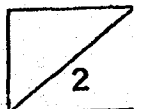
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this column

Ans: \_\_\_\_\_ %

20. A pizza with a radius of 7 cm is shared equally among  $x$  people. What is the arc length of the crust each person will get? Express your answer in terms of  $x$ . (Take  $\pi = \frac{22}{7}$ )



Ans: \_\_\_\_\_ cm



Questions 21 to 30 carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (20 marks)

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21. Use all the digits 3,4,5,8 to form

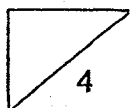
- a) largest even number, and
- b) a number closest to 5000.

Ans: (a) \_\_\_\_\_

(b) \_\_\_\_\_

22. Min Leng had 2 l of milk. She poured milk into 4 equal glasses and realised that she had  $1\frac{2}{5}$  l left. How much milk did she pour into each glass?

Ans: \_\_\_\_\_ l



23.  $\frac{4}{9}$  of a number is 32. What is the number?

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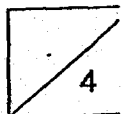
Ans: \_\_\_\_\_

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24.  $\frac{1}{6}$  of Pauline's money is equal to  $\frac{2}{3}$  of Sandra's money. How much money does Pauline have if she has \$90 more than Sandra?

Ans: \$ \_\_\_\_\_

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25. The total surface area of a cube is  $54 \text{ cm}^2$ . Find the volume of the cube.

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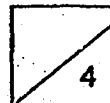
Ans: \_\_\_\_\_  $\text{cm}^3$

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26. Donna has an elder brother. Her brother is 6 years more than twice of Donna's age. How old is Donna if their total age 30?

Ans: \_\_\_\_\_

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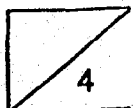
27. Every time Danny saves \$0.50, his father would add another \$0.20 to his savings. How much did his father put into his savings if Danny had \$14 in his savings?

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Ans: \$ \_\_\_\_\_

28. The perimeter of the rectangle is 6 times its breadth. What is the area of the rectangle if the length is 12 cm?

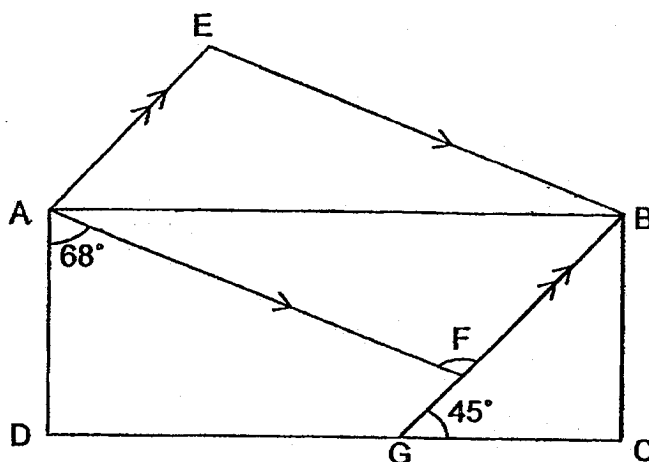
Ans: \_\_\_\_\_ cm<sup>2</sup>





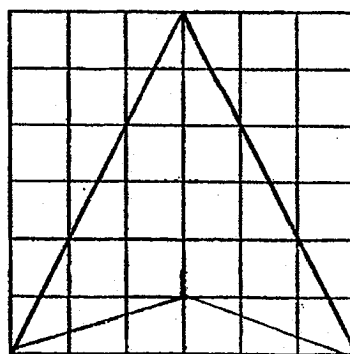
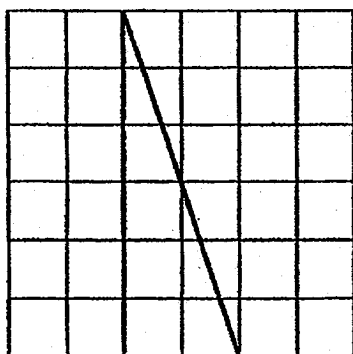
29. The figure below is made up of rectangle ABCD, parallelogram AEBF and isosceles triangle BCG.  $\angle DAF$  is  $68^\circ$  and  $\angle BGC$  is  $45^\circ$ . Find  $\angle AFB$ .

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Ans: \_\_\_\_\_°

30. Draw an isosceles triangle with half the area as the triangle shown below.



End of Booklet B



Index  
No

					—	
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**SINGAPORE CHINESE GIRLS' SCHOOL**

**PRELIMINARY EXAMINATION 2018**

**PRIMARY 6**

**MATHEMATICS**

**PAPER 2**

**Name :** \_\_\_\_\_ (      )

**Class :** Primary 6

**24 August 2018**

Paper 2	Mark	Max Mark
		55

Parent's Signature

**17 Questions**  
**55 Marks**

**Total Time For Paper 2: 1 h 40 min**

**INSTRUCTIONS TO CANDIDATES**

Do not open this booklet until you are told to do so.

Follow all instructions carefully.

Answer all questions.

You are allowed to use the calculator

1890-1891

1891-1892

1892-1893

1893-1894

1894-1895

1895-1896

1896-1897

1897-1898

1898-1899

1899-1900

1900-1901

1901-1902

1902-1903

1903-1904

1904-1905

1905-1906

1906-1907

1907-1908

1908-1909

1909-1910

1910-1911

1911-1912

1912-1913

Questions 1 to 5 carry 2 marks each. Show your working clearly in the space below each question and write your answers in the space provided. For questions which require units, give your answers in the units stated. (10 marks)

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1. There are 16 boys and 25 girls in the class. 25% of the boys and 40% of the girls wore spectacles. How many students wore spectacles?

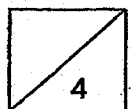
Ans: \_\_\_\_\_

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2. The average of height of 3 children is 1.25 m. A 4<sup>th</sup> child joins the group. What is the average height of the 4 children if the 4<sup>th</sup> child is 1.33 m?

Ans: \_\_\_\_\_ m

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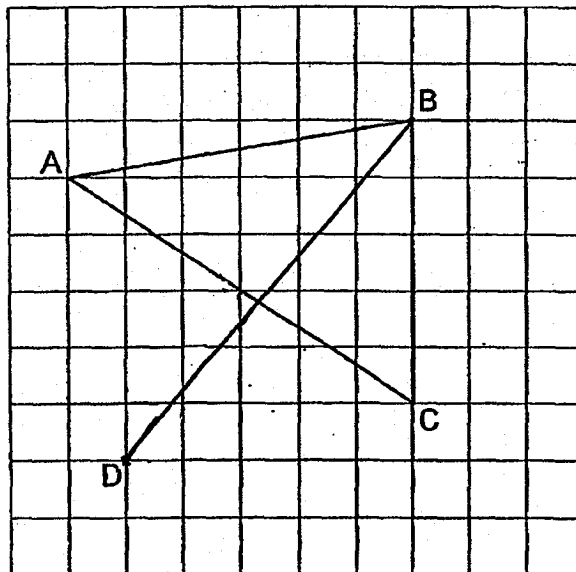


3. Mr Lim has a bookshelf which can be fully packed with either 18 school files or 42 exercise books. Mr Tan also has an identical bookshelf. If Mr Tan has 14 exercise books in his bookshelf, how many school files are needed to fill up the bookshelf?

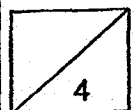
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Ans: \_\_\_\_\_

4. Triangle ABC is drawn in the grid below.  
a) Measure  $\angle ACB$ .  
b) Draw a line perpendicular to line AC that touches point D.

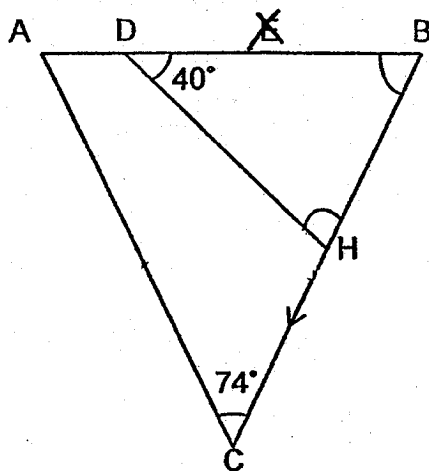


Ans: (a) \_\_\_\_\_ ° [1]

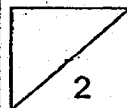


5. In the figure below, ABC is an isosceles triangle where AC is equal to BC.  $\angle ACB$  is  $74^\circ$  and  $\angle BDH$  is  $40^\circ$ . Find  $\angle DHC$ .

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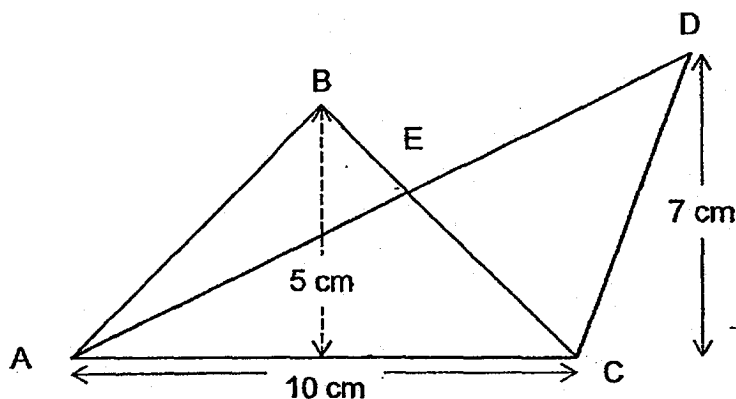
Ans: \_\_\_\_\_



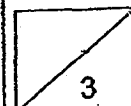
For questions 6 to 17, show your working clearly in the space below each question and write your answers in the spaces provided. The number of marks awarded is shown in brackets [ ] at the end of each question or part-question. (50 marks)

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6. The figure below shows 2 overlapping triangles, ABC and ACD. Find the area of the figure given that the area of Triangle AEC is  $15 \text{ cm}^2$ .



Ans: \_\_\_\_\_ [3]

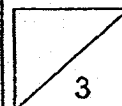




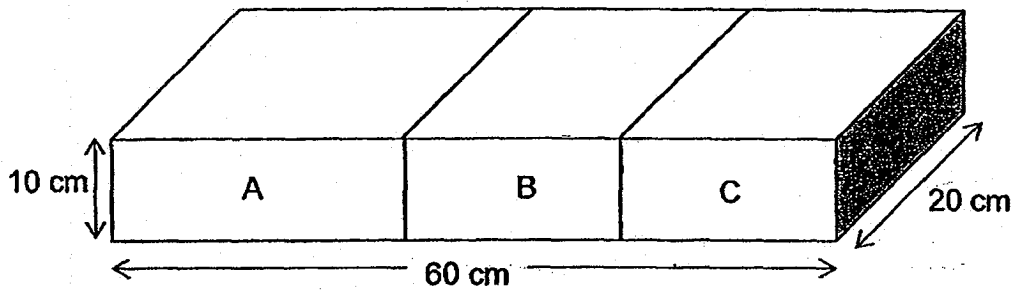
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7. At a stationery fair, Cailin bought 4 more pens than files. Each pen costs \$2 and each file costs \$5. She spent \$28 more on files than pens. How many pens did Cailin buy?

Ans: \_\_\_\_\_ [3]

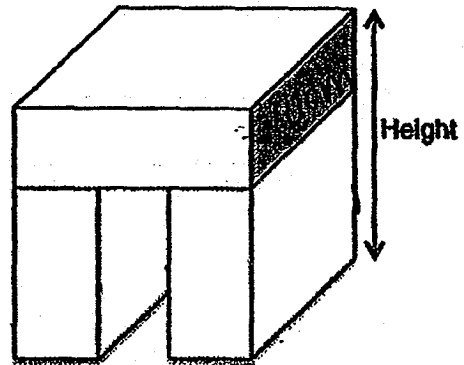


8. Mr Ali wanted to make a stool from a block of wood, 10 cm by 60 cm by 20 cm, as shown below. He cuts the wood into 3 parts, A, B and C in the ratio of 4 : 3 : 3.



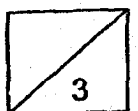
He then nails the 2 smaller pieces to part A as shown below.

- (a) Find the height of the stool.  
(b) What is the **lowest** possible height if he were to stack 5 such stools, one on top of another?



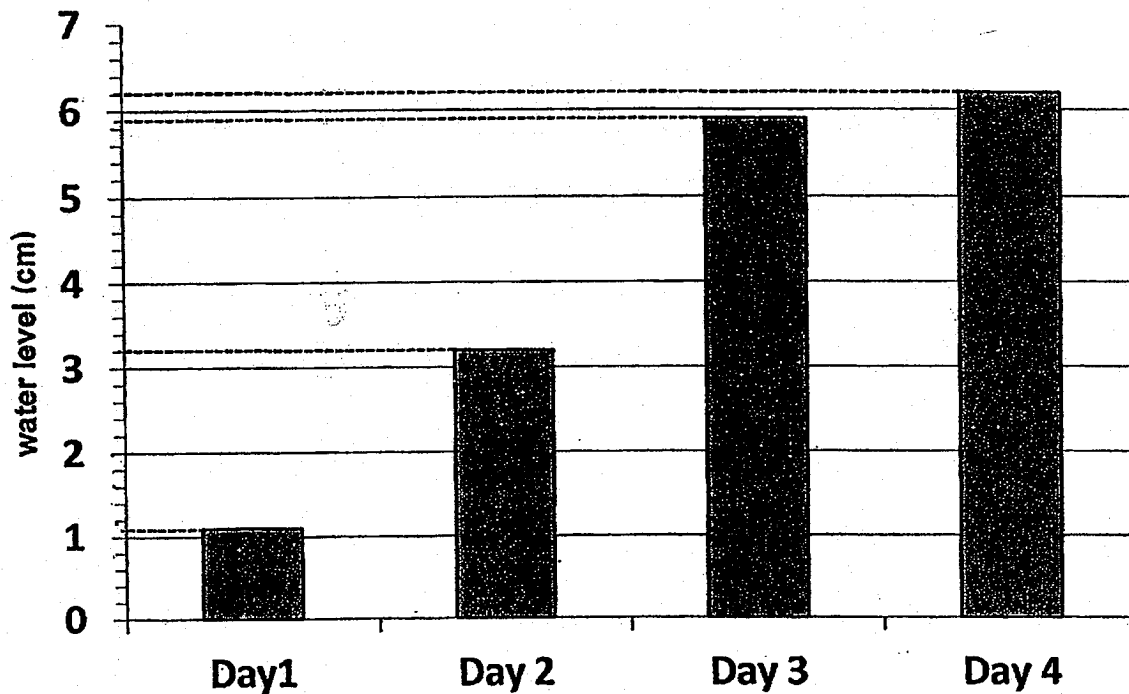
Ans: (a) \_\_\_\_\_ [2]

(b) \_\_\_\_\_ [1]



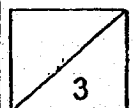
9. Mr Chee wanted to measure the amount of rainfall during a rainy season. He placed an empty beaker and observed the water level of the beaker and the results are shown in the graph below.
- (a) What is the increase in water level from Day 1 to Day 2?
- (b) Find the average water level in the beaker over 4 days.

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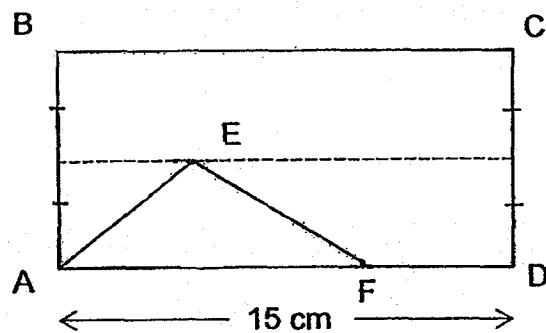
Ans: (a) \_\_\_\_\_ [1]

(b) \_\_\_\_\_ [2]

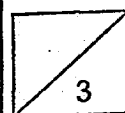


10. The figure below, not drawn to scale, is made up of a rectangle ABCD and a triangle AEF. The ratio of the area of rectangle to the area of triangle is 6 : 1. Find length AF given that the length of the rectangle AD is 15 cm.

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Ans: \_\_\_\_\_ [3]



11. Andrea baked  $y$  mini-cupcakes on Monday and five times as many on Tuesday.

She then kept  $\frac{1}{3}$  of the mini-cupcakes for her family and friends and packed the remaining mini-cupcakes into packets of 3 and sold them at \$5 per packet at a school carnival.

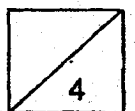
(a) Express the amount of money Andrea earned in terms of  $y$ .

(b) Given that  $y = 75$ , how much did she earn for the carnival?

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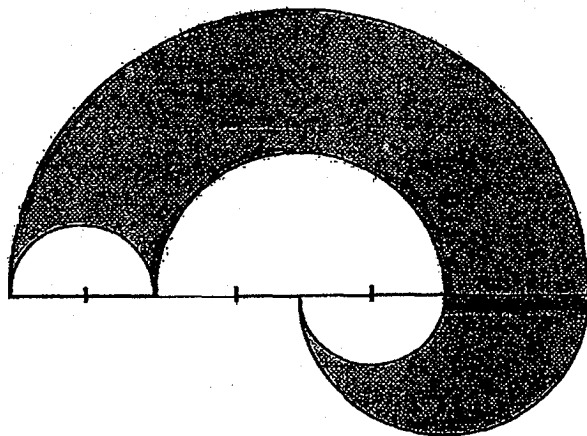
Ans: (a) \_\_\_\_\_ [2]

(b) \_\_\_\_\_ [2]

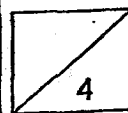


12. The figure below is made up of semi-circles of 3 different radii. The radius of the largest semi-circle is 21cm. Find the area of the shaded figure. Round off your answers to 2 decimal places.

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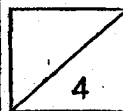
Ans: \_\_\_\_\_ [4]



13. Hendry and Jacky were at Town A and Town B respectively, 39 km apart. Hendry started driving towards Town B at a speed of 65 km/h. 6 minutes later, Jacky started driving towards Town A and eventually, they drove past each other at the midpoint of Town A and B. Find Jacky's speed.

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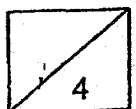
Ans: \_\_\_\_\_ [4]



14. There were red, blue and green and yellow marbles in a bag. The number of red marbles is 30% of the number of blue and green marbles. The ratio of the number of blue, green and yellow marbles to the number of the total number of marbles in the bag is 5 : 6. Given that there are 54 red marbles in the bag, how many yellow marbles are there in the bag?

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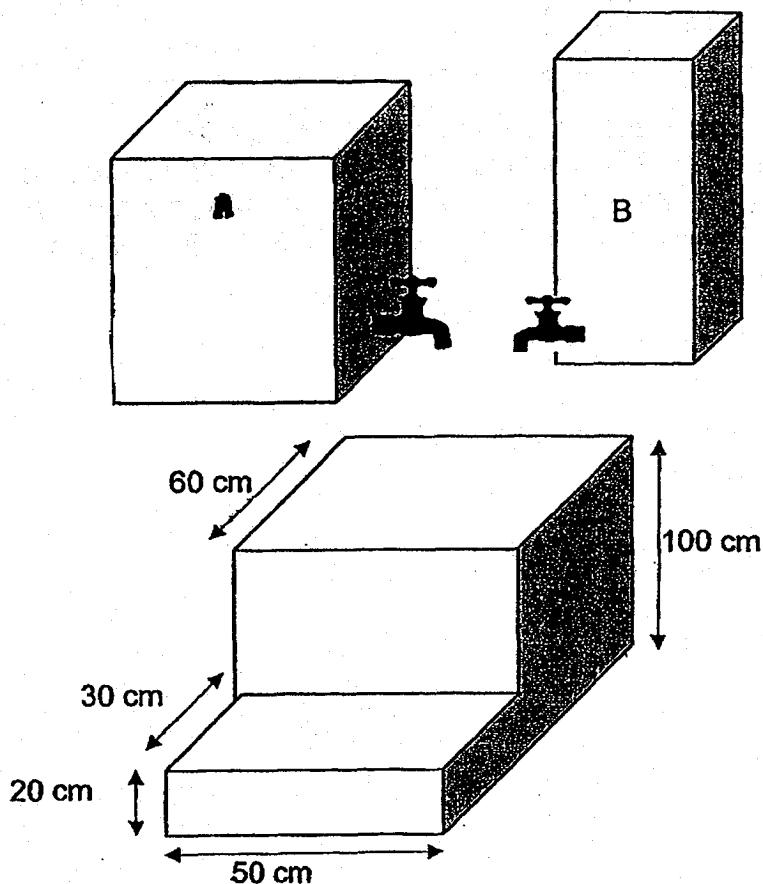
Ans: \_\_\_\_\_ [4]



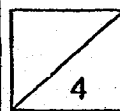


15. Mrs Wee has a cubic container A completely filled with water. Water flowed out from container A into container C as shown below. At the same time, water from container B was also filling container C at a rate of  $7200 \text{ cm}^3$  per minute. After 10 minutes, the water level in both containers A and C is half of the height of their containers. Find the length of one side of container A.

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this column



Ans: \_\_\_\_\_ [4]



16. A family of 5 was considering where to go for an affordable dinner.

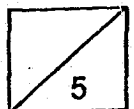
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this column

<u>Restaurant A</u>	<u>Restaurant B</u>
10% discount on the 4 <sup>th</sup> diner Buffet price: \$40 per person <del>-No Service Charge-</del>	10% Service Charge applicable

- (a) What is the average cost per person if they dined at Restaurant A?  
(b) What is the maximum amount they should spend at Restaurant B before the service charge, such that their total bill would be at least \$10 less than what they would spend at Restaurant A? (Round off your answer to the nearest dollar.)

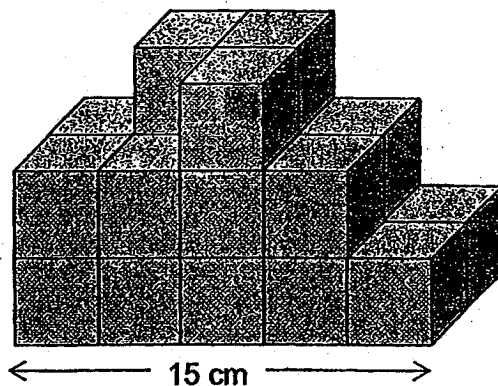
Ans: (a) \_\_\_\_\_ [2]

(b) \_\_\_\_\_ [2]



17. The figure below is made up of 21 identical cubes. Philip decided to paint the exposed surface area, including the surface area at the bottom of the figure.

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this column



- a) What is the total area that Philip painted?  
b) Find the number of surfaces that are **not** painted.

Ans: (a) \_\_\_\_\_ [3]

(b) \_\_\_\_\_ [2]

**End of Paper 2**

*~ Please check your work thoroughly. ~*



SCHOOL : SCGS PRIMARY SCHOOL  
LEVEL : PRIMARY 6  
SUBJECT : MATH  
TERM : 2018 PRELIM

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**PAPER 1 BOOKLET A**

Q 1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
4	1	2	4	2	1	4	2	2	4

Q 11	Q12	Q13	Q14	Q15
3	4	3	2	2

**PAPER 1 BOOKLET B**

Q16)	2.35
Q17)	1.10
Q18)	2.31
Q19)	85%
Q20)	44/x
Q21)	a)8534 b)4853
Q22)	3/20L
Q23)	72
Q24)	\$120
Q25)	27cm <sup>3</sup>
Q26)	8
Q27)	\$4
Q28)	72cm <sup>2</sup>
Q29)	113°
Q30)	

# 2018 Prelims Maths Paper 2

- |          |               |               |
|----------|---------------|---------------|
| 1) 14    | 3) 12         | 5) $93^\circ$ |
| 2) 1.27m | 4) $56^\circ$ |               |

Solutions to Word Problems  
SCGS Paper 2  
P6 Mathematics SA2 2018

Show your working clearly in the space provided for each question and write your answers in the spaces provided.

6. Area of triangle ABC =  $\frac{1}{2} \times 10 \times 5 = 25 \text{ cm}^2$

Area of triangle ADC =  $\frac{1}{2} \times 10 \times 7 = 35 \text{ cm}^2$

Area of figure = area of ABC + area of ADC – area of AEC  
 =  $25 + 35 - 15 = 45 \text{ cm}^2$

Ans:  $45 \text{ cm}^2$

7.

	4	No of pens
		No of files

Cost of excess 4 pens =  $4 \times 2 = \$8$

If she had not bought 4 more pens, the difference =  $28 + 8 = \$36$

Difference of price between 1 file and 1 pen =  $5 - 2 = 3$

No of files =  $36 \div 3 = 12$

Number of pens =  $12 + 4 = 16$

Ans: 16



8. a)

$$\text{Breadth of B} = \frac{3}{4+3+3} \times 60 = 18 \text{ cm} = \text{breadth of C}$$

$$\text{Height of stool} = \text{height of A} + \text{breadth of B} = 10 + 18 = 28 \text{ cm}$$

b)

Lowest height of stool = 20 cm when resting sideways

$$\text{Lowest height of 5 stools} = 20 \times 5 = 100 \text{ cm}$$

Ans: (a) 28 cm  
(b) 100cm

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9. a)

$$\text{Increase of water level from Day 1 to 2} = 3.2 - 1.1 = 2.1 \text{ cm}$$

b)

$$\text{Total water level in 4 days} = 1.1 + 3.2 + 5.9 + 6.2 = 16.4 \text{ cm}$$

$$\text{Average water level} = 16.4 \div 4 = 4.1 \text{ cm}$$

Ans: (a) 2.1 cm  
(b) 4.1 cm

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10. Area of rectangle ABCD is 6 times of area of triangle

Let length AF = u, AB = p

$$p \times 15 = 6 \times \frac{1}{2} \times u \times \frac{p}{2}$$

$$\frac{3}{2} u = 15$$

$$u = \frac{2}{3} \times 15 = 10 \text{ cm}$$

Ans: 10 cm

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11. a)

Total mini-cupcakes baked on both days =  $y + 5y = 6y$

Remaining mini-cupcakes to be sold =  $\frac{2}{3} \times 6y = 4y$

Amount of money earned =  $4y \div 3 \times 5 = \frac{20}{3} y$

- b)

Amount earned =  $\frac{20}{3} \times 75 = \$500$

Ans: (a)  $\frac{20}{3} y$

(b) \$500

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12. Area of figure = large semi-circle – medium semi-circle – small semi-circle +  
medium semi-circle – small semi-circle  
= large semi-circle – small circle  
=  $\frac{1}{2} \times \pi \times 21 \times 21 - \pi \times \frac{21}{4} \times \frac{21}{4}$   
=  $\frac{7}{16} \times \pi \times 21 \times 21 = 606.21 \text{ cm}^2$

Ans:  $606.21 \text{ cm}^2$

13. Distance travelled to midpoint =  $39 \div 2 = 19.5 \text{ km}$   
Time taken by Hendry to travel to midpoint =  $19.5 \div 65 \times 60 = 18 \text{ min}$   
Time taken by Jacky to travel to midpoint =  $18 - 6 = 12 \text{ min} = 0.2 \text{ hour}$   
Jacky's speed =  $19.5 \div 0.2 = 97.5 \text{ km / h}$

Ans:  $97.5 \text{ km / h}$

14. Ratio

$$B + G + Y : \text{Total} : R$$

$$5 : 6 : 1$$

$$15u : 18u : 3u \quad (\text{multiply by } 3)$$

$$R : B + G$$

$$3u : 10u$$

$$3u = 54$$

$$u = 54 \div 3 = 18$$

$$\text{Yellow units} = 15u - 10u = 5u = 5 \times 18 = 90$$

Ans: 90

15. Volume of half height water level in container C =  $20 \times 50 \times 90 + 30 \times 50 \times 60 =$   
 $= 180\,000 \text{ cm}^2$

$$\text{Volume of water coming from container B} = 7200 \times 10 = 72\,000 \text{ cm}^2$$

$$\text{Volume of water coming from container A} = 180\,000 - 72\,000 = 108\,000 \text{ cm}^2$$

$$\text{Capacity of container A} = 108\,000 \times 2 = 216\,000 \text{ cm}^2 = 60 \times 60 \times 60$$

$$\text{Length of container A} = 60 \text{ cm}$$

Ans: 60 cm

16. a)

Total cost for 5 pax at restaurant A =  $40 \times 5 - 4 = 196$

Average cost per person at restaurant A =  $196 \div 5 = \$39.20$

b)

Total bill at restaurant B =  $196 - 10 = \$186$

Amount before service charge =  $\frac{100}{110} \times 186 = \$169.09 \approx \$169$

Ans: (a) \$39.20

(b) \$169

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17. a)

$$\text{Number of exposed squares} = 10 + 11 + 7 + 6 + 10 + 3 + 3 + 2 + 2 = 54$$

$$\text{Area of each square} = 3 \times 3 = 9$$

$$\text{Total area painted} = 9 \times 54 = 486 \text{ cm}^2$$

b)

$$\text{Total number of sides of 21 cubes} = 21 \times 6 = 126$$

$$\text{Number of surface not painted} = 126 - 54 = 72$$

Ans: (a)  $486 \text{ cm}^2$

(b) 72

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