PRELIMINARY EXAMINATION, 2017

MATHEMATICS

PAPER 1

(BOOKLET A)

Additional materials: Optical Answer Sheet (OAS) **Total Time For Booklets A & B : 50 min**

Name : _____ ( )

Class : Primary 6 ___

Date : 2 August 2017

INSTRUCTIONS TO CANDIDATES

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

FOLLOW ALL INSTRUCTIONS CAREFULLY.

ANSWER ALL THE QUESTIONS.

SHADE YOUR ANSWERS IN THE OPTICAL ANSWER SHEET (OAS) PROVIDED.

YOU ARE NOT ALLOWED TO USE A CALCULATOR.

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)

1. What does the digit 5 in 532 081 stand for?

(1) 500

(2) 5000

(3) 50 000

(4) 500 000

2. The price of a television when rounded to the nearest hundred is $2000. Which of the following is likely to be the price of the television?

(1) $1948

(2) $1952

(3) $2073

(4) $2125

3. Arrange the following fractions from the smallest to the largest.

$$\frac{5}{8}, \frac{2}{5}, \frac{7}{10}$$

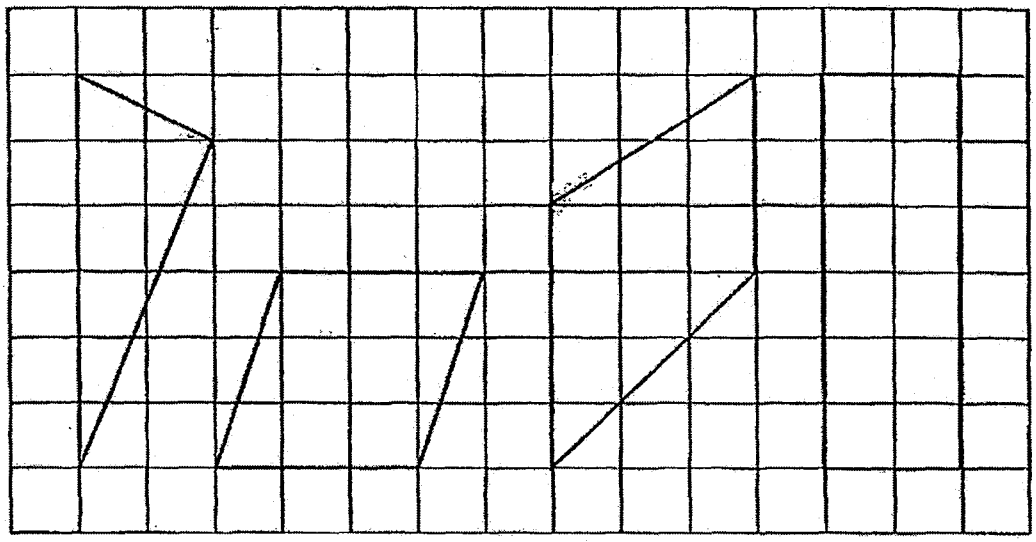
(1) $\frac{2}{5}, \frac{7}{10}, \frac{5}{8}$

(2) $\frac{5}{8}, \frac{7}{10}, \frac{2}{5}$

(3) $\frac{2}{5}, \frac{5}{8}, \frac{7}{10}$

(4) $\frac{7}{10}, \frac{5}{8}, \frac{2}{5}$

4. Which of the following figures below is a trapezium?



(1) (2) (3) (4)

5. Which of the following fractions is the nearest to 0.8?

(1) $\frac{8}{20}$

(2) $\frac{21}{30}$

(3) $\frac{15}{20}$

(4) $\frac{9}{10}$

6. Express 8005 m in kilometres and metres.

(1) 8 km 5 m

(2) 8 km 50 m

(3) 80 km 5 m

(4) 80 km 50 m

7. What is the value of $\frac{8m+6}{6}$ when $m = 9$?

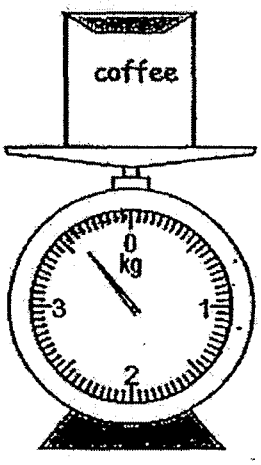
(1) 13

(2) 20

(3) 73

(4) 78

8. What is the mass of the packet of coffee as shown on the weighing scale in the figure?



(1) 3.6 kg

(2) 3.7 kg

(3) 4.1 kg

(4) 4.2 kg

9. Mrs Lee had $\frac{2}{3}$ kg of rice. She gave away $\frac{1}{5}$ kg of it to her friends. How much rice had she left?

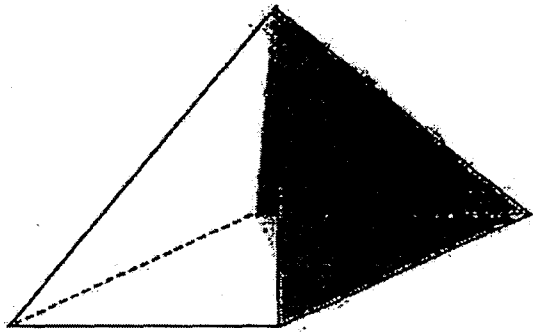
(1) $\frac{8}{15}$ kg

(2) $\frac{7}{15}$ kg

(3) $\frac{4}{15}$ kg

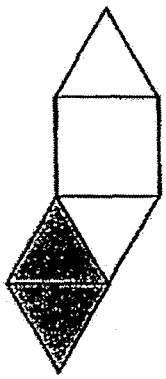
(4) $\frac{2}{15}$ kg

10. The figure below shows a pyramid with two sides shaded.

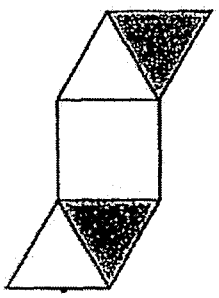


Which of the following are nets of the above solid?

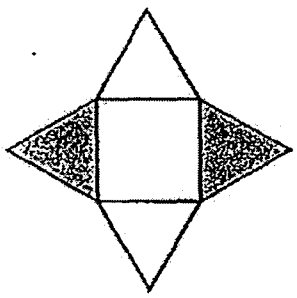
A.



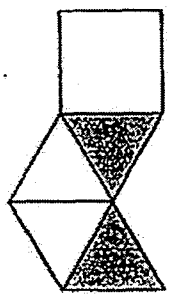
B.



C.



D.



(1) A and B only

(2) C and D only

(3) A and C only

(4) B and D only

11. George had some buttons. After he bought more buttons, the number of buttons he had increased by 20% to 240. How many buttons did he have at first?

(1) 40

(2) 192

(3) 200

(4) 1200

12. Hulll filled two identical bottles completely with mixtures of orange syrup and water. The ratio of the amount of orange syrup to the amount of water in the first bottle was 2 : 1 and in the second bottle was 5 : 4. What was the ratio of the total amount of orange syrup to the total amount of water in both bottles?

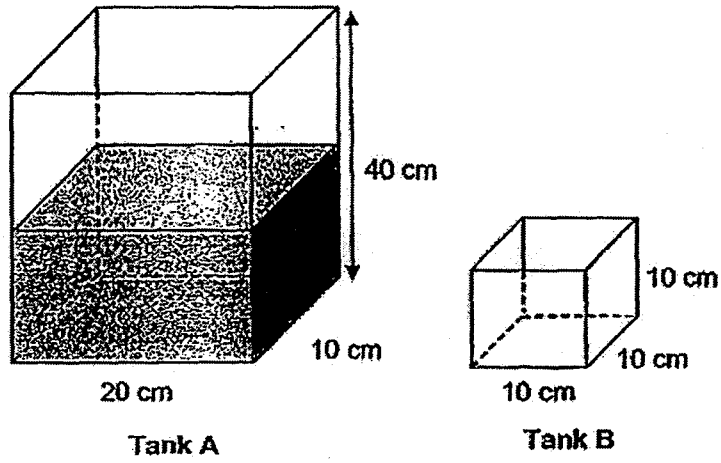
(1) 7 : 5

(2) 7 : 18

(3) 11: 7

(4) 11 : 18

13. Tank A was filled with water to half its height. Water from Tank A was poured into Tank B and filled to its brim.



What was the height of the water level left in Tank A?

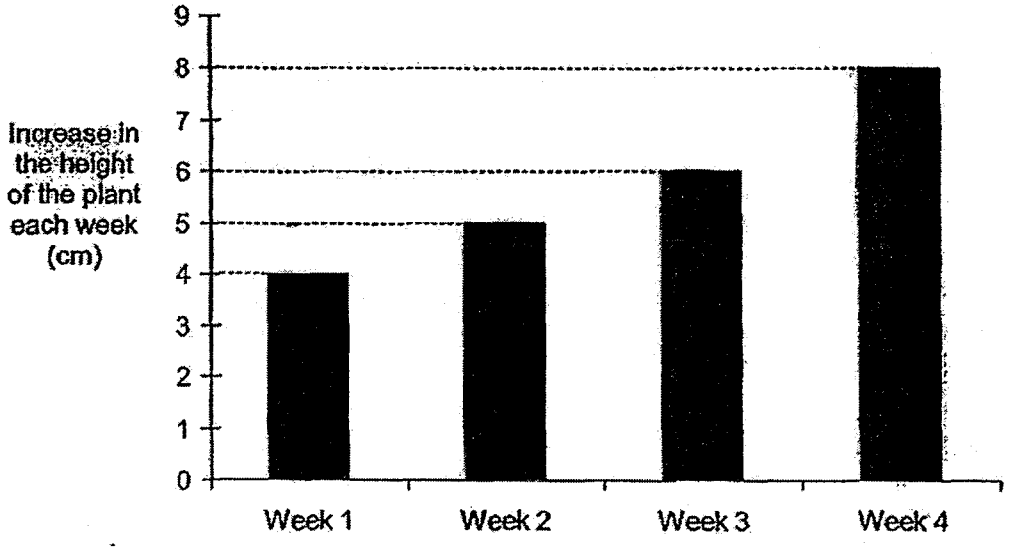
(1) 5 cm

(2) 15 cm

(3) 30 cm

(4) 35 cm

14. Rahmid bought a plant that was 16 cm tall. He measured the height of the plant and recorded its increase in height by the end of each week. The bar graph below shows his records.



What was the height of the plant at the end of Week 3?

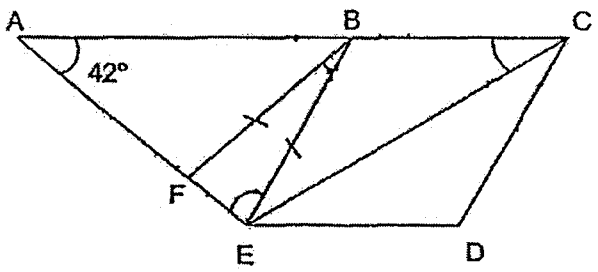
(1) 6 cm

(2) 15 cm

(3) 22 cm

(4) 31 cm

15. In the figure below, ACDE is a trapezium. ABF and BFE are isosceles triangles. BCDE is a rhombus.



Find ∠BCE.

(1) 27°

(2) 54°

(3) 63°

(4) 84°

PRELIMINARY EXAMINATION, 2017

MATHEMATICS

PAPER 1

(BOOKLET B)

Total Time For Booklets A & B : 50 min

Name : _____( )

Class : Primary 6 ___

Date : 2 August 2017

20

INSTRUCTIONS TO CANDIDATES

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

FOLLOW ALL INSTRUCTIONS CAREFULLY.

ANSWER ALL QUESTIONS.

SHOW YOUR WORKING CLEARLY AS MARKS ARE AWARDED FOR CORRECT WORKING.

WRITE YOUR ANSWERS IN THIS BOOKLET.

YOU ARE NOT ALLOWED TO USE A CALCULATOR.

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. (10 marks)

Do not write in this space

16. What is the first common multiple 3 and 6 ?

Answer: _____

17. Find the value of 5.07 × 1000.

Answer: _____

18. What is the value of $\frac{3}{5} \times \frac{2}{15}$? Express your answer as a fraction in its simplest form.

Answer: _____

19. Find the value of 118.26 ÷ 9.

Answer: _____

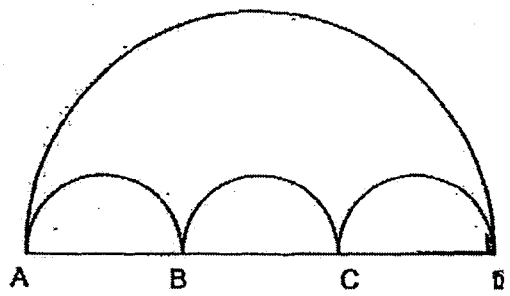
20. Simplify $9a + 17 - 5a - 4$.

Answer: _____

SCORE

Do not write in this spac

21. The figure below shows three identical small semicircles in a big semicirle. AD = 12 cm. What is the radius of each small semicircle?



Answer: _____ cm

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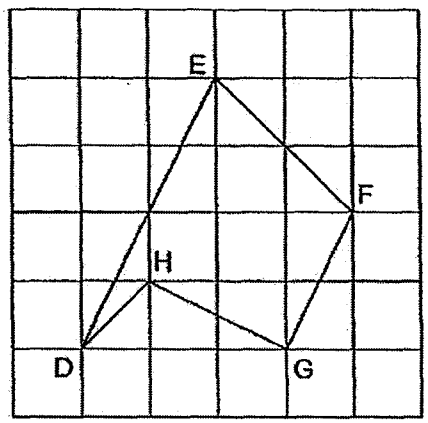
22. Study the figure below. Name a pair of parallel lines in the figure below.



Answer: _____ and _____

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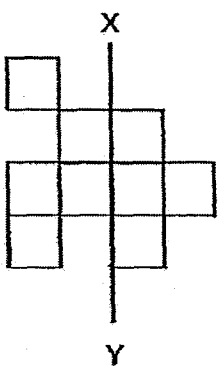
23. The figure below shows some squares. What is the smallest number of squares that must be added so that line XY is the line of symmetry?

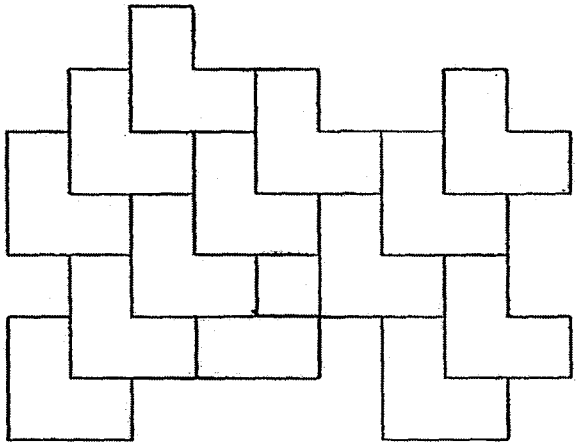


Answer: _____

SCORE

Do not write in this space

24. The pattern below shows part of a tessellation. One of the shapes does not fit into the tesslation shown below. Shade it.



25.

Café De Singapore

Open Daily
10.30 a.m. to 9:00 p.m.

For how long is Café De Singapore open each day?
(Give your answer in h and min.)

Answer: _____ h _____ min

SCORE

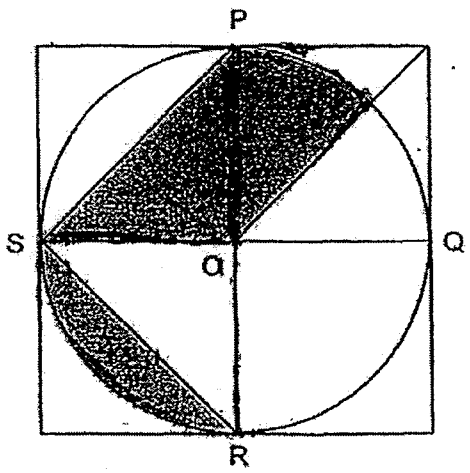
Questions 26 to 30 carry 2 marks each. Show your working clearly in the space below each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

Do not write in this space

26. Anne bought $\frac{3}{4}$ kg of sweets. She gave $\frac{1}{2}$ of them to her friend and packed the rest equally into 4 packets. What was the mass of the sweets in each packet?

Answer: _____ kg

27. The figure below shows a circle PQRS in a square. The radius of the circle is 40 cm. What is the total area of the shaded parts? Leave your answer in terms of π.



Answer: _____ cm²

SCORE

28. One afternoon, 5 friends rented 3 bicycle from 5.00 p.m. to 6.30p.m. and took turns to ride on them. At any time, 3 of them cycled while the other 2 friends rested.

If each of them had the same amount of cycling time, how many minutes did each person ride on a bicycle ?

Do not write in this space

Answer: _____ min

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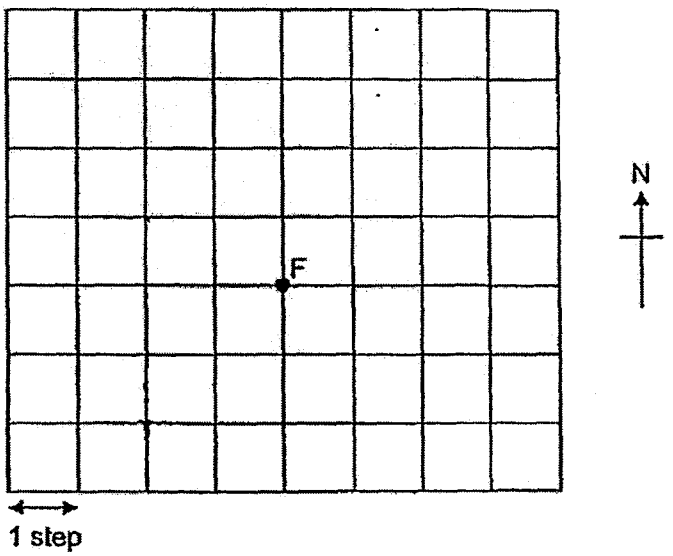
29. Shawn was at a point. He followed the instructions in the following sequence.

(i) Walk 3 steps to the North
(ii) Walk 2 steps to the East
(iii) Walk 1 step to the South

He ended up at point F. Mark the point he started at with a cross (X) and name it S.



SCORE

30. Patrick bought 30 files with all his money. When the price of each file was decreased by $2, he could buy 12 more files. How much did each file cost before the decrease in price?

Do not write in this space

Answer: $ _____

End of Paper

Set by : Mdm Hoi Wan Hua, Ms Jennifer Foo, Mrs Eileen Sew, Ms Joyce Ng

SCORE

PRELIMINARY EXAMINATION, 2017

MATHEMATICS

PAPER 2

Time: 1 h 40 min

Name : _____ ( )

Class : Primary 6 ___

Date : 2 August 2017

Parent's Signature: _____

Paper 1 (Booklet A)	/20
Paper 1 (Booklet B)	/20
Paper 2	/60
TOTAL	/100

INSTRUCTIONS TO CANDIDATES

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WRITE YOUR ANSWERS IN THIS BOOKLET.
YOU ARE ALLOWED TO USE A CALCULATOR.

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. (10 marks)

Do not write in this space

1. 5 books and 2 pens cost $41.65. Each book costs 3 times as much as a pen. How much does a pen cost ?

Answer: $ _____

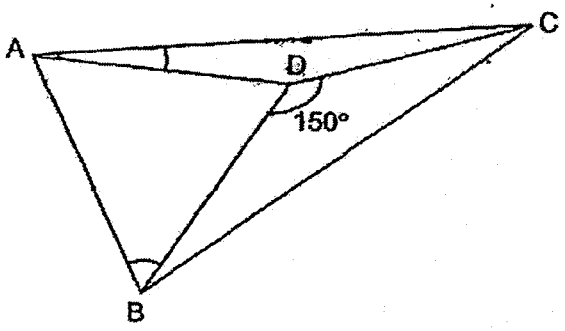
2. Container A had 6530 ml of water at first. Some of its water was poured equally into 15 bottles. In the end, 0.5 ℓ of water was left in the container. What was the volume of water in each bottle?

Answer: _____ ml

SCORE

3. In the figure beloe, ABC is a triangle. ABD is an equilateral triangle. AD = DC and ∠CDB = 150°. Find ∠DAC.

Do not write in this space



Answer: _____°

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4. Albert and Benny had $2640 altogether.
When Albert gave $\frac{1}{6}$ of his money to Benny, they had the same amount of money.
How much money did Albert have at first?

Answer: $_____

SCORE

5. When Sheryl was 6k years old, she was twice as old as her brother. How old will Sheryl be when her brother is 18 years old ? Express your answer in terms of k.

Do not write in this space

Answer: _____ years old

SCORE

For 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. Alice bought $\frac{3}{5}$ kg of flour. She used $\frac{1}{4}$ kg of it to bake some cupcakes. She then gave $\frac{1}{3}$ of the remaining flour to her neighbour. How much flour had she left? Express your answer as a fraction in its simplest form.

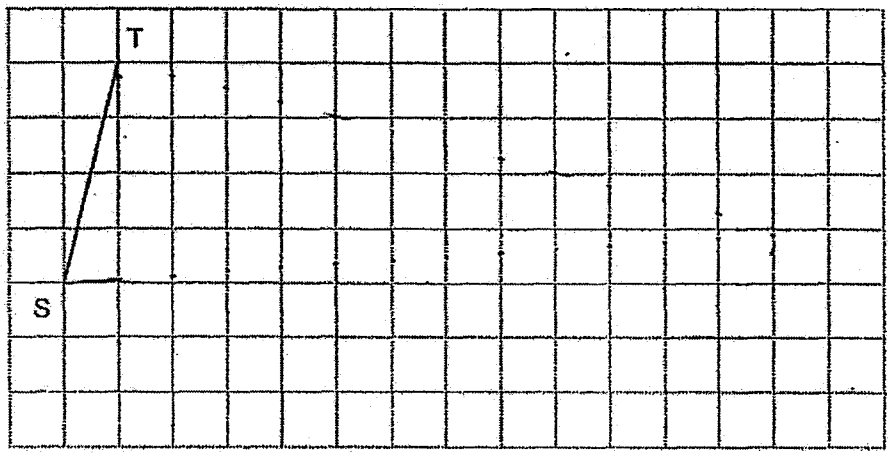
Answer: _____ [3]

SCORE

7. In the square grid, one side of a right-angled triangle STU has been drawn.

(a) Measure the length of ST.

(b) Line TU is three times the length of ST. ∠STU is a right angle. Complete the drawing of triangle STU within the grid. [2]



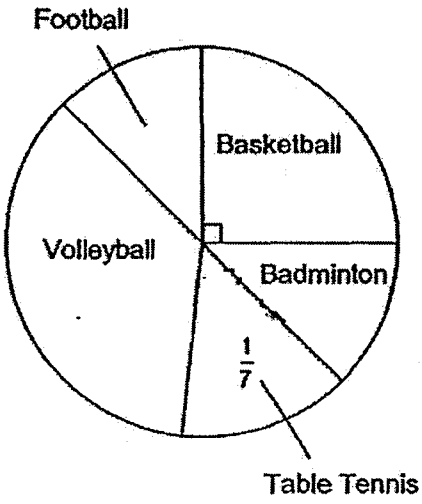
Answer: (a) _____ [1]

Do not write in this space

SCORE

8. During a survey, some pupils were asked to name their favourite sport. The pie chart represents their choices.

Do not write in this space



(a) 84 pupils chose basketball as their favourite sport. How many pupils took part in the survey altogether?

(b) How many pupils chose volleyball as their favourite sport?

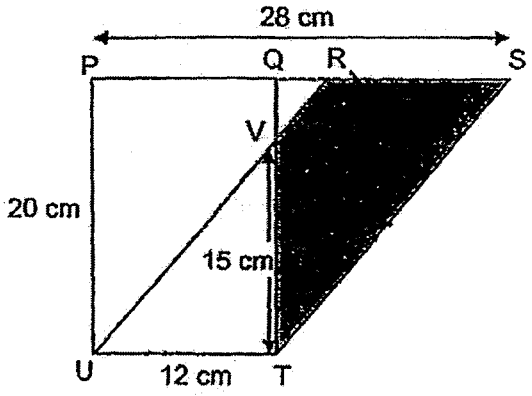
Answer: (a) _____ [1]

(b) _____ [2]

SCORE

9. The diagram below shows a rectangle PQTU and a parallelogram RSTU.

Do not write in this space



(a) Find the length of QR.

(b) Find the area of the shaded part.

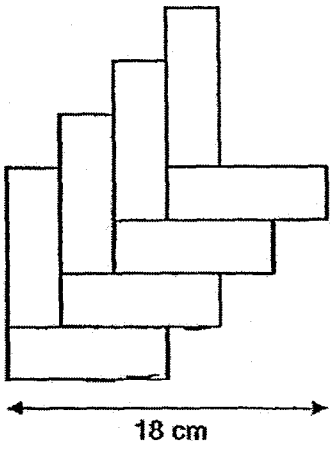
Answer: (a) _____ [2]

(b) _____ [2]

SCORE

10. The figure below is made up of 8 identical rectangles.

Do not write in this space



(a) Find the area of 1 rectangle.

(b) Find the perimeter of the figure.

Answer: (a) _____ [2]

(b) _____ [2]

SCORE

11. Luke had $\frac{1}{6}$ as many stamps as Kenny. After Kenny gave 306 stamps to Luke, the ratio of the number of stamps Luke had to the number of stamps Kenny had was 2 : 3.

Do not write in this space

(a) How many stamps did Kenny have in the end?

(b) If Kenny wanted Luke to have the same number of stamps as him, how many more stamps must Kenny give to Luke?

Answer: (a) _____ [2]

(b) _____ [2]

SCORE

12. At 09 00, a lorry started from Town P and travelled towards Town Q at a speed of 55 km/h for the whole journey. At 11 00, a car started from Town Q and travelled towards Town P. The speed of the car remained the same throughout the journey. The car passed the lorry at 13 00 and at this point, the lorry had travelled $\frac{5}{9}$ of the journey.

Do not write in this space

(a) How far was the lorry from Town P at 13 00?

(b) At what time did the car reach Town P?

Answer: (a) _____ [2]

(b) _____ [2]

SCORE

13. Sun Ne bought some books at an average price of $27. After buying another 6 books for $39 each, the average price of all the books increased to $31.80. How many books did she buy altogether?

Do not write in this space

Answer: _____ [3]

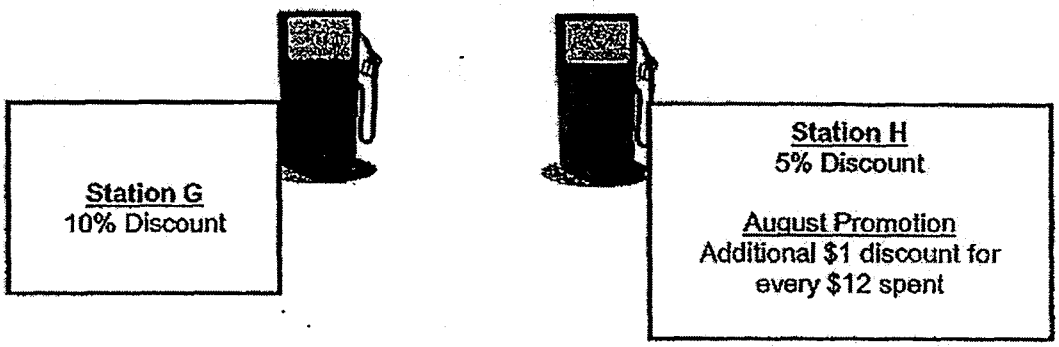
SCORE

14. The petrol price at Stations G and H was at $2.40 per litre. Station G gave a 10% discount while Station H gave a 5% discount. For the month of August, Station H had a promotion where an additional $1 discount was given for every $12 spent on petrol.
In August, Mr Kang went to Station G and paid for 38 litres of petrol.

Do not write in this space

(a) How much did Mr Kang pay for his petrol at Station G?

(b) How much would Mr Kang save if he had gone to Station H for the same amount of petrol in August?



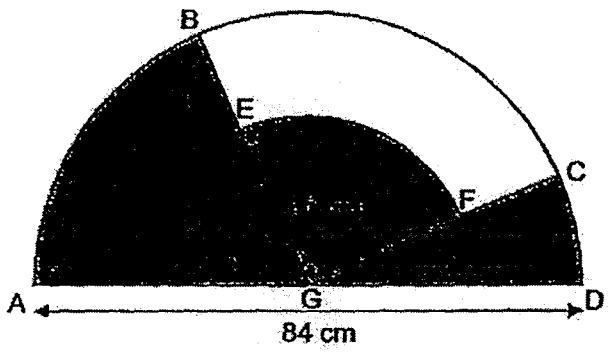
Answer: (a) _____ [1]

(b) _____ [3]

SCORE

15. The figure below shows a semicircle with a diameter of 84 cm and a quarter circle EFG with a radius of 28 cm. G is the midpoint of AD. BEG and CFG are straight lines.

Do not write in this space



(a) Find the area of the shaded part.

(b) Find the perimeter of the shaded part.
(Take $\pi = \frac{22}{7}$)

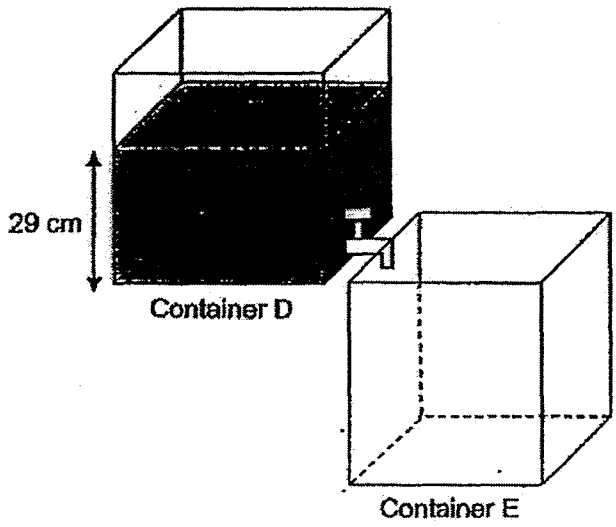
Answer: (a) _____ [2]

(b) _____ [2]

SCORE

16. Container D had a base area of 650 cm^2 and was filled with oil to a height of 29 cm. The oil flowed out of a tap in Container D into an empty Container E which had a base area of 400 cm^2. The tap was turned off immediately when the height of the oil in Container E was twice that of the height of the oil left in Container D. What was the volume of oil in Container E in the end?

Do not write in this space



Answer: _____ [4]

SCORE

17. Kitty, Leng Leng and Nora shared the cost of a present. 25% of Kitty's share was $18 more than 60% of Leng Leng's share. Nora paid 25% of what Kitty had paid. Leng Leng paid $28 more than Nora for the present.

Do not write in this space

(a) How much did Leng Leng pay for the present?

(b) How much more did Kitty pay for the present than Nora?

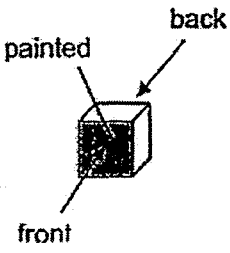
Answer: (a) _____ [3]

(b) _____ [2]

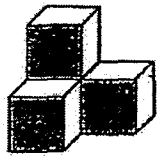
SCORE

Do not write in this space

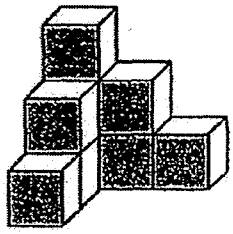
18. Jay used identical cubes to form the following patterns. For each pattern, the cubes were glued together to form a solid. The front and the back of the solid were painted.



Pattern 1



Pattern 2



Pattern 3

The number of cubes used and the number of faces painted for each solid were recorded in the table below.

Pattern	Number of cubes used	Number of faces painted
1	2	2
2	4	6
3	9	12
4		

(a) Complete the table above for Pattern 4. [1]

(b) What was the number of faces painted for Pattern 18?

(c) 1406 faces were painted for a solid. How many cubes were used to form the solid?

Answer: (b) _____ [2]

(c) _____ [2]

End of Paper

SCORE

Set by : Mdm Hoi Wan Hua, Ms Jennifer Foo, Mrs Eileen Sew, Ms Joyce Ng

ANSWER SHEET

EXAM PAPER 2017 (P6)

SCHOOL : PEI CHUN

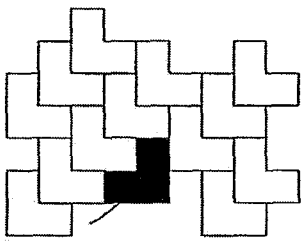
SUBJECT : MATHEMATICS

TERM : PRELIM

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

16)6 17)5070 18)2/25 19)13.14 20)4a+ 13

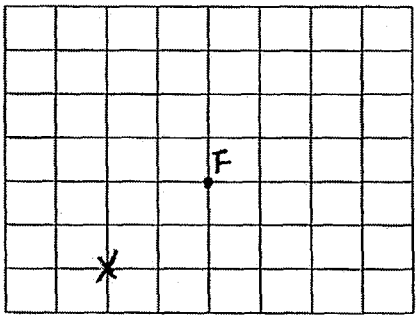
21)2 cm 22)ED and FG 23)3 24)



25)10h 30min 26)3/32

27)600Π 28)54min

29)



30)$7

Paper 2

1)total units→3 x 5 =15

1 pen→41.65 ÷ 17 = $2.45

2)0.5L = 500ml

15 bottles→6530 – 500 = 6030

1 bottle→6030 ÷ 15 = 402

3) $\angle ADC = 360^\circ - 150^\circ - 60^\circ = 150^\circ$

$\angle ACD = 180^\circ - 150^\circ = 30^\circ$

$\angle DAC = 30^\circ \div 2 = 15^\circ$

4)units→5 x 2 = 10

1unit→2640/10 = 264

Albert→264 x 6 = 1584

5)6k/2 = 3k

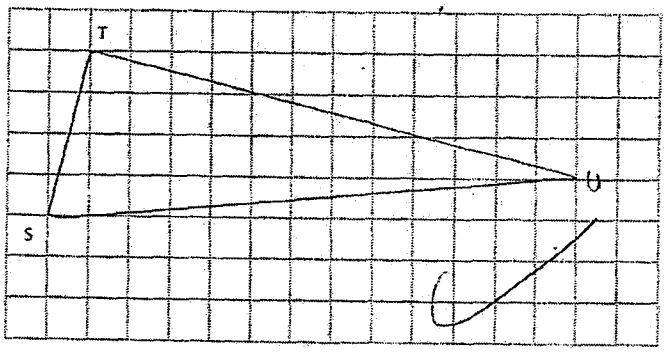
(18+ 3k)

6)Remaining →3/5 – ¼ = 7/20

Left→7/20 x 2/3 = 7/30kg

7)a)3.4cm

b)



8)a)1 unit→84/7 = 12

Total→ 12 x 28 = 336

b)Volleyball→ 12 x 10 = 120

9)a)QR→ 28 – 12 – 12 = 4cm

b)QV→20 – 15 = 5

shaded →20 x 16 x ½ - 5 x 4 x ½ = 150cm2

10)Breadth→18 ÷ 6 = 3

Length→ 3 x 3 = 9

a)Area →9 x 3 = 27cm2

b)Perimeter→26 x 3 = 78cm

11)9 units→306

1 unit→306/9 = 34

a)Kenny→21 x 34 = 714

b)Luke→34 x 14 = 1190

Give→714 – (1190/2) = 119

12)5/9 journey→4 x 55 = 220

4/9 lourney→220/5 x 4 = 176

(car)speed→176/2 = 88

Distance→220/5 x 9 = 396

Time→396 ÷ 88 = 4.5

4.5h = 4h 30min

a)220km

b)15 30

13)31.80 – 27 = 4.80

More→(39 – 31.80) x 6 = 43.2

Buy→43.20 ÷ 4.80 = 9

Total→9 + 6 =15

14)100% - 10% = 90%

1 litre (G discounted price) →2.40 x 90% = 2.16

a)paid→2.16 x 38 = $82.08

b)1 litre (H discounted price)→2.40 x 95% = 2.28

38 litres→2.28 x 38 – 86.64

? group→86.64 ÷ 12 = 7R 2.64

7 x 1 = 7

Paid→86.64 – 7 = 79.64

Save→82.08 – 79.64 = 2.44

15)a)Area→28 x 28 x 22/7 x ¼ + 42 x 42 x 22/7 x ¼ = 2002cm2

b)Perimeter→28 x 22/7 x 2 x ¼ + 14 + 14 + 42 x 22/7 x 2 x ¼ + 84 = 222cm

16)oil→29 x 650 = 18850

Total base area→400 + 400 + 650 = 1450

? group→18850 ÷ 1450 = 13

E (height)→13 x 2 = 26

Oil (E)→26 x 400 = 10400cm2

17)a)40%-->18 + 28 = 46

LengLeng →46/4 x 10 =$115

b)60% x 4 = 240%

240% - 60% = 180%

More→46/4 x 18 + 18 x 3 = $261

18)a)16 / 20

b)Painted→18 x 19 = 342

1406 = 37 x 38

c)pattern No→37

used→37 x 37 = 1369