

**SECOND SEMESTRAL EXAMINATION  
2016**

**PRIMARY 5  
MATHEMATICS**

**PAPER 1**

**DURATION: 50 MINUTES**

<b>Booklet A</b>	<b>/ 20</b>
<b>Booklet B</b>	<b>/ 20</b>

<b>Paper 1 Total: / 40</b>
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Name: \_\_\_\_\_ (       )

Class: Primary 5 (       )

Date: 26 October 2016

Any query on marks awarded should be raised by 4 November 2016.  
We seek your understanding in this matter as any delay in the  
confirmation of marks will lead to delays in the generation of results.

Parent's Signature: \_\_\_\_\_

**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.**

**PAPER 1 (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 oval (1, 2, 3 or 4) on the Optical Answer Sheet.

(20 marks)

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**1** Round off 2 806 517 to the nearest thousand.

(1) 2 800 000

(2) 2 806 000

(3) 2 807 000

(4) 2 810 000

**2** Find the value of  $2090 \div 10 \times 1000$ .

(1) 0.209

(2) 2.09

(3) 20 900

(4) 209 000

3 Find the value of  $\frac{5}{6} + \frac{1}{9}$ .

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

(2)  $\frac{6}{15}$

(3)  $\frac{13}{18}$

(4)  $\frac{17}{18}$

4 Find the value of  $\frac{2}{3} \div 4$ .

(1)  $\frac{1}{6}$

(2)  $\frac{3}{8}$

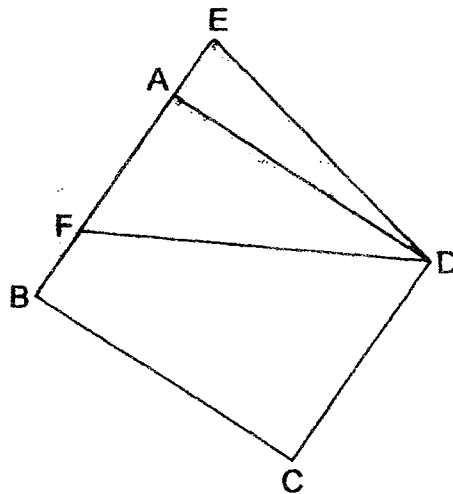
(3)  $\frac{8}{3}$

(4) 6

5 Find the value of  $30.82 \times 100$ .

- (1) 0.3082
- (2) 3.082
- (3) 308.2
- (4) 3082

6 In the figure below, ABCD is a rectangle and DEF is a triangle. The points B, F, A and E lie on a straight line. What is the height of triangle DEF given that its base is EF?

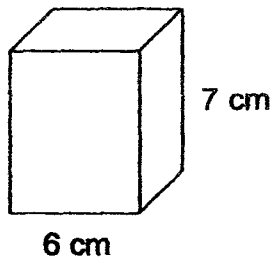


- (1) AD
- (2) DF
- (3) BE
- (4) DE

7 Which one of the following is not an equivalent ratio of 6 : 42?

- (1) 1 : 6
- (2) 1 : 7
- (3) 2 : 14
- (4) 3 : 21

8 A solid cuboid of height 7 cm has a square base of side 6 cm. What is its volume?



- (1) 212 cm<sup>3</sup>
- (2) 223 cm<sup>3</sup>
- (3) 252 cm<sup>3</sup>
- (4) 294 cm<sup>3</sup>

**9** Which one of the following is the same as  $6050 \text{ cm}^3$ ?

- (1)  $0.605 \text{ l}$
- (2)  $6.05 \text{ l}$
- (3)  $6050 \text{ l}$
- (4)  $6\ 050\ 000 \text{ l}$

**10** Mrs Wong bought 2 books. The original price of each book was \$50. She was given 10% discount on the first book and 25% discount on the second book. How much did she pay for the 2 books altogether?

- (1) \$17.50
- (2) \$32.50
- (3) \$65
- (4) \$82.50

11 Arrange the fractions below in increasing order.

$$\frac{6}{3}, \frac{3}{4}, \frac{5}{3}, 1\frac{1}{2}$$

(1)  $1\frac{1}{2}, \frac{6}{3}, \frac{5}{3}, \frac{3}{4}$

(2)  $\frac{6}{3}, \frac{5}{3}, 1\frac{1}{2}, \frac{3}{4}$

(3)  $\frac{3}{4}, 1\frac{1}{2}, \frac{5}{3}, \frac{6}{3}$

(4)  $\frac{3}{4}, \frac{5}{3}, 1\frac{1}{2}, \frac{6}{3}$

12 The total surface area of a cube is  $150 \text{ m}^2$ . Find its volume.

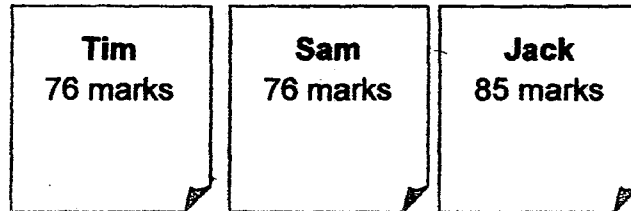
(1)  $5 \text{ m}^3$

(2)  $25 \text{ m}^3$

(3)  $125 \text{ m}^3$

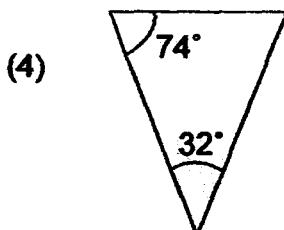
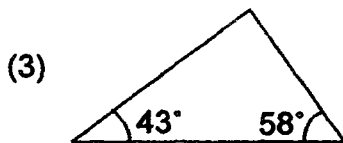
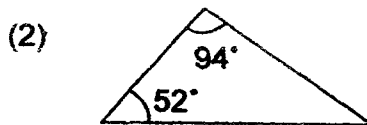
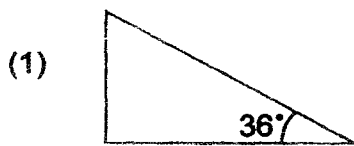
(4)  $900 \text{ m}^3$

- 13 Tim, Sam and Jack sat for a test. Tim and Sam scored 76 marks each. Jack scored 85 marks. Find the average mark scored by the 3 children.



- (1) 53
- (2) 79
- (3) 81
- (4) 82

- 14 Which one of the following is an isosceles triangle?





- 15 There are three whole numbers, A, B and C. When the numbers are added two at a time, the sums are 27, 25 and 20 as shown below.

$$A + B = 27$$

$$A + C = 25$$

$$B + C = 20$$

What is the value of C?

(1) 11

(2) 9

(3) 7

(4) 4

Name: \_\_\_\_\_ ( ) Class: Pr 5 ( )

P5 SA2 2016

**PAPER 1 (BOOKLET B)**

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)

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16 Find the value of  $6 + 12 + (8 - 2)$ .

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

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17 Find the product of  $\frac{3}{10}$  and  $\frac{8}{9}$ . Express your answer as a fraction in its simplest form.

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

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18 At a party, 10 out of 30 adults were men. There were 8 children at the party. Find the ratio of the number of children to the number of men to the number of women. Express your answer in its simplest form.

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

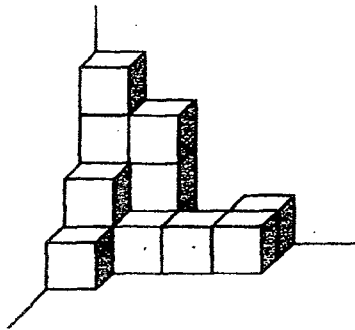
- 19 Find the missing number in the box below.

$$\square : 36 = 7 : 9$$

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

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- 20 The figure below shows a solid formed by stacking identical cubes in the corner of a room. Find the number of cubes used to form the solid.



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

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- 21 A rectangular tank measuring 5 m by 4 m by 7 m is half-filled with water. Find the volume of the water in the tank.

Ans: \_\_\_\_\_ m<sup>3</sup>

---

22 What percentage of the figure below is unshaded?



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

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23 Express  $\frac{3}{25}$  as a percentage.

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

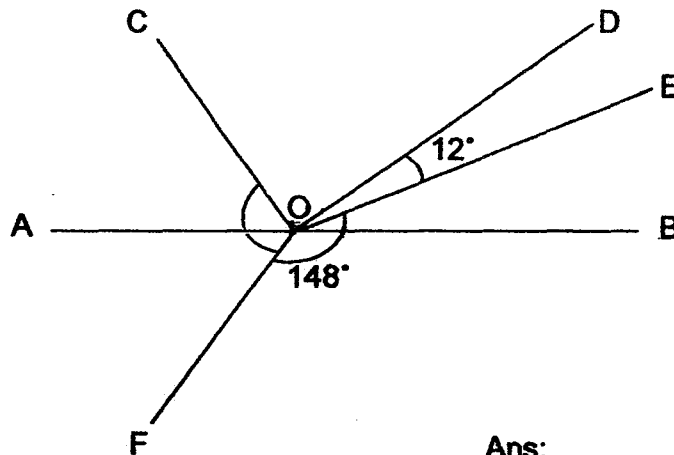
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24 Find the value of 20% of 160 km.

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

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25 In the figure below, AOB is a straight line and CO is perpendicular to OD.  $\angle DOE = 12^\circ$  and  $\angle EOF = 148^\circ$ . Find  $\angle COF$ .



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

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Questions 26 to 30 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)

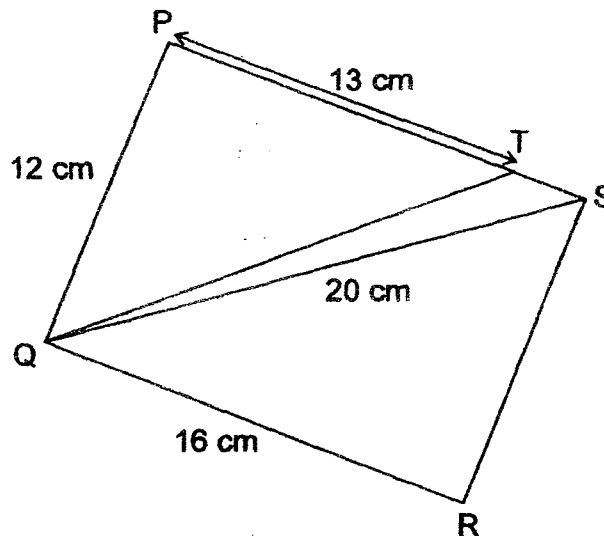
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26 What is 2260 g in kilograms?

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

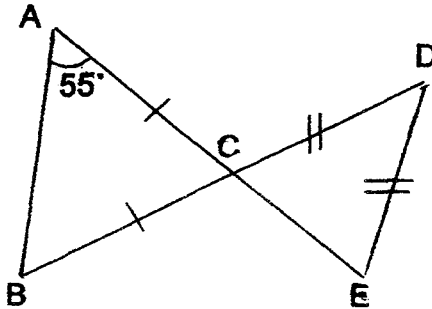
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27 In the figure below, PQRS is a rectangle measuring 16 cm by 12 cm. QS = 20 cm and PT = 13 cm. Find the area of triangle QST.



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

- 28 In the figure below, ACE and BCD are straight lines.  $AC = BC$ ,  $CD = ED$  and  $\angle CAB = 55^\circ$ . Find  $\angle CED$ .



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

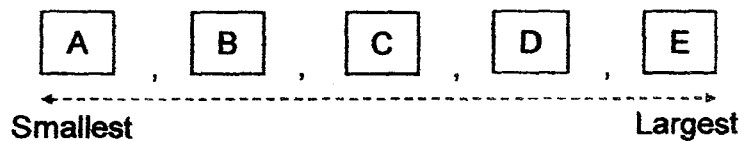
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- 29 The actual masses of two metal boxes, A and B, are measured in hundredths. The mass of box A is rounded off to 13.6 kg and the mass of box B is rounded off to 16.8 kg. What is the greatest possible difference in the actual masses of these two boxes? Give your answer in kg.

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

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- 30 The boxes below represent 5 consecutive whole numbers arranged from the smallest to the largest. 11, 12, 13, 14, 15 is one example of 5 consecutive whole numbers arranged from the smallest to the largest. The sum of A, D and E is 106. Find the value of A.



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

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**END OF PAPER**





**SECOND SEMESTRAL EXAMINATION  
2016**

**PRIMARY 5  
MATHEMATICS  
PAPER 2**

**DURATION: 1 HOUR 40 MINUTES**

<b>Paper 2 Total</b>	<b>/ 60</b>
<b>GRAND TOTAL</b>	<b>/ 100</b>

Name: \_\_\_\_\_ (       )

Class: Primary 5 (       )

Date: , 26 October 2016

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**PAPER 2**

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)

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- 1 Faris used  $1\frac{1}{12}$  litres of paint to paint a wall. How much paint did he use to paint 4 such walls? Express your answer as a mixed number in its simplest form.

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

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- 2 A worker used 3 black tiles for every 5 white tiles on a floor. He used 63 black tiles. How many white tiles did he use?

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

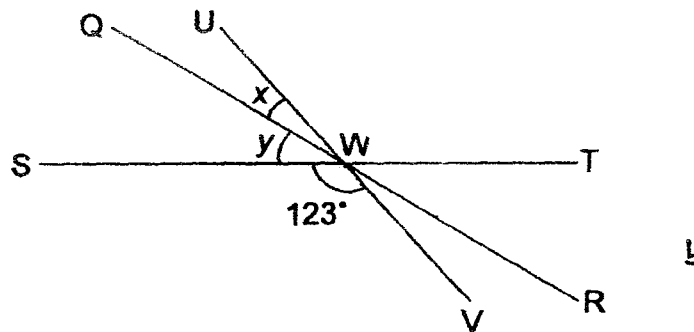
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- 3 There were 1284 children at a school hall. 963 of them were boys. What percentage of the children were girls?

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

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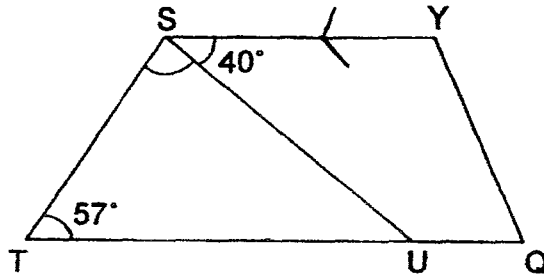
- 4 In the figure below, QWR, SWT and UWW are straight lines.  $\angle x$  is half the size of  $\angle y$  and  $\angle SWV$  is  $123^\circ$ . Find  $\angle x$ .



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

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- 5 In the figure below, SYQT is a trapezium and SY is parallel to TQ.  $\angle STU = 57^\circ$  and  $\angle YSU = 40^\circ$ . Find  $\angle TSU$ .



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

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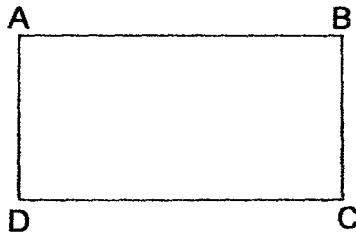
For questions 6 to 18, show your working clearly in the space provided for each question and write your answers in the spaces provided.

The number of marks available is shown in brackets [ ] at the end of each question or part-question.

(50 marks)

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- 6 The length of rectangle ABCD is  $10\frac{1}{3}$  m. Its breadth is  $2\frac{1}{5}$  m shorter than its length. Find the perimeter of rectangle ABCD in metres. Express your answer as a mixed number in its simplest form.



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

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- 7 The number of children who visited the National Museum was 6 times the number of adults. The number of boys was twice the number of girls. There were 60 fewer adults than girls. How many children visited the National Museum?

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

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- 8 A rectangular tank measuring 30 cm by 12 cm by 16 cm was completely filled with water. After some water was poured out from the tank, the height of the water decreased from 16 cm to 11 cm. How much water was poured out from the tank?

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

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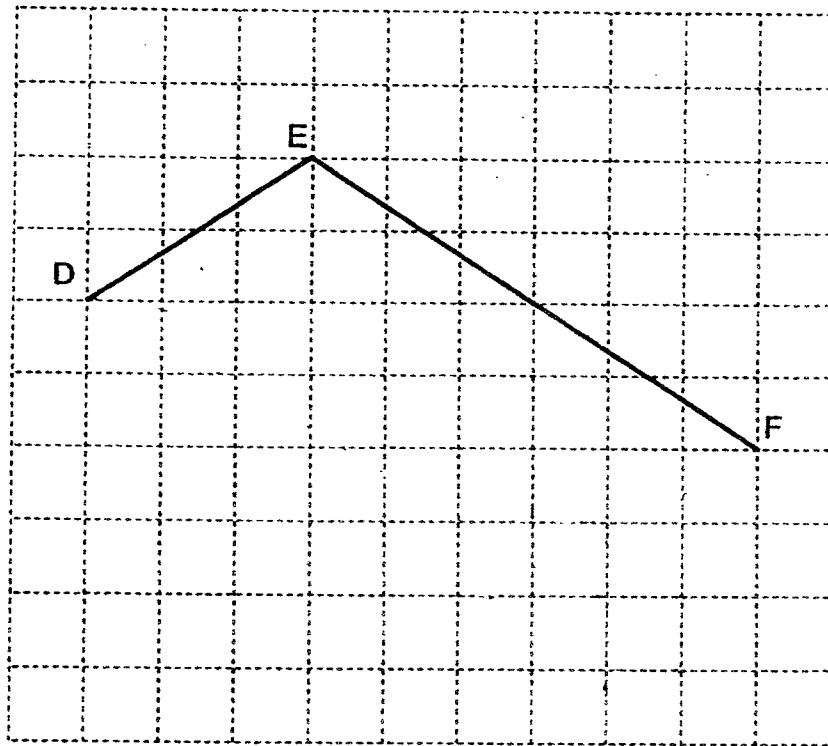
- 9 Mr Lee measured and recorded the mass of Ashley, Bala, Chin Hin and Dave. The average mass of these 4 children was 49 kg. The next day, Mr Lee realised that he had recorded Ashley's mass wrongly. Ashley's recorded mass was 8 kg more than her actual mass. What was the correct average mass of the 4 children?

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

---

10 In the square grid below, DE and EF are straight lines.

- (a) DE and EF form the two sides of a four-sided figure DEFG. EF is parallel to DG and  $EF = DG$ . Complete the drawing of the four-sided figure DEFG.



[2]

- (b) Which one of the following is the special name given to the four-sided figure DEFG: parallelogram, rectangle, rhombus or trapezium?

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

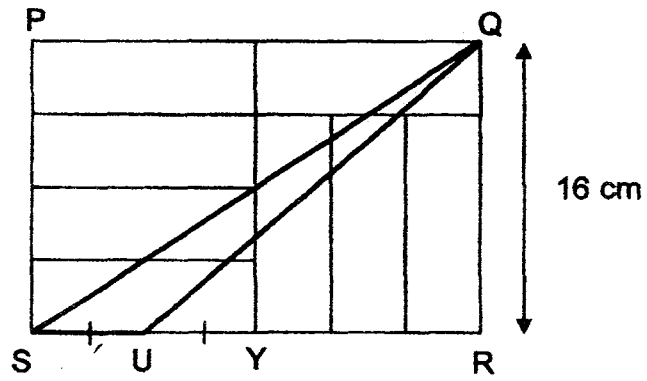


- 11** At first, Zhi Lie, Eva and Lisa had some sweets in the ratio 5 : 3 : 4 respectively. Zhi Lie had 190 sweets. Then he gave all his sweets to Eva and Lisa. After receiving the sweets from Zhi Lie, Eva and Lisa had the same number of sweets. How many sweets did Eva receive from Zhi Lie?

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

---

- 12 In the figure below, rectangle PQRS is made up of 8 identical rectangles.  $QR = 16$  cm and  $SU = UY$ . Find the area of triangle SQU.



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

**13** There were some red, blue and green beads in a box.  $\frac{1}{9}$  of the beads were blue. The ratio of the number of red beads to the number of green beads was 3 : 5. There were 288 fewer blue beads than green beads.

- (a) Find the ratio of the number of red beads to the number of blue beads to the number of green beads in the box.
- (b) How many green beads were there?

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

(b) \_\_\_\_\_ [3]

- 14** Mdm Asfa bought some egg tarts and cheese tarts. She paid a total of \$168 for the tarts. 40% of the tarts bought were cheese tarts and the rest were egg tarts. Each egg tart cost \$6 and each cheese tart cost \$3. How many cheese tarts did she buy?

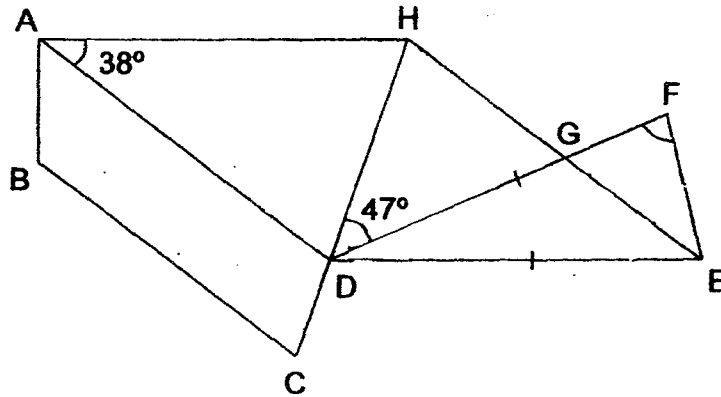
Ans: \_\_\_\_\_ [4]

---

- 15 In the figure below, ABCD is a trapezium and ADEH is a rhombus. AD is parallel to BC and DE = DF. HDC and DGF are straight lines.  $\angle DAH = 38^\circ$  and  $\angle GDH = 47^\circ$ .

(a) Find  $\angle ADC$ .

(b) Find  $\angle DFE$ .



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

(b) \_\_\_\_\_ [3]

- 16 The table below shows the rates charged for the use of water in a country.

First 30 units	\$0.97 per unit
Next 30 units	\$1.12 per unit
After 60 units	\$2.00 per unit

- (a) Mr Tan and his family used 30 units of water in January. How much did they pay for the usage of water in January?
- (b) Mrs Sahin and her family paid \$162.70 for the usage of water in February. How many units of water did they use in February?

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

(b) \_\_\_\_\_ [4]

- 17 Vera, Leroy and Tarita each donated some money to charity. The amount of money donated by Vera was  $\frac{1}{2}$  of the total amount of money donated by Leroy and Tarita. The amount of money donated by Leroy was  $\frac{1}{3}$  of the total amount of money donated by Vera and Tarita. Vera donated \$168. How much did Leroy donate?

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

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- 18 A rectangular tank measuring 48 cm by 18 cm by 26 cm was filled with 18.8 litres of water as shown in the Figure 1. When three identical wooden blocks were put into the tank, 794 ml of water overflowed from the tank as shown in Figure 2. Find the volume of one such wooden block.

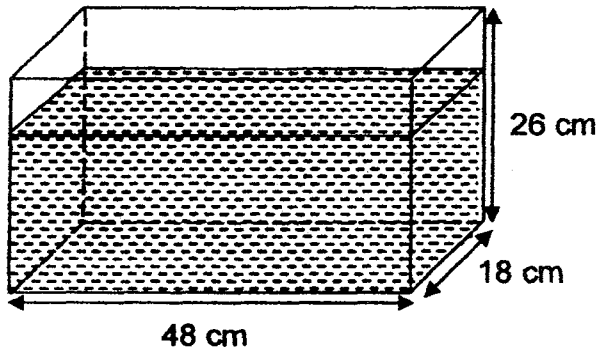


Figure 1

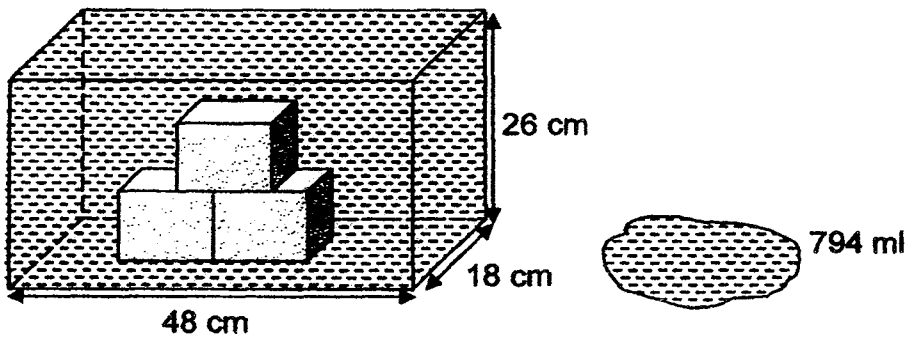


Figure 2

Ans: \_\_\_\_\_ [5]

END OF PAPER



# ANSWER KEY

YEAR : 2016  
LEVEL : PRIMARY 5  
SCHOOL : NANYANG PRIMARY  
SUBJECT : MATHEMATICS  
TERM : SA2

## Paper 1

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

Q16 8

Q17  $\frac{4}{15}$

Q18 Women  $\rightarrow 30 - 10 = 20$

C : M : W  
8 : 10 : 20  
4 : 5 : 10

Q19 28

Q20 14

Q21  $5 \times 4 \times 7 \rightarrow 140$   
 $140 \div 2 \Rightarrow \underline{70 \text{ m}^3}$

Q22 60 %

Q23 12 %

Q24 32 km

Q25  $110^\circ$

Q26 2.26 kg

Q27  $16 - 13 = 3$   
 $\frac{1}{2} \times 3 \times 12 \Rightarrow \underline{18 \text{ cm}^2}$

Q28  $55^\circ + 55^\circ \rightarrow 110^\circ$   
 $180^\circ - 110^\circ \Rightarrow \underline{70^\circ}$

Q29  $13.6 \approx 13.55$   
 $16.8 \approx 16.85$   
 $16.84 - 13.55 \Rightarrow \underline{3.29 \text{ kg}}$

Q30  $\underline{33} + 36 + 37 = 106$

Paper 2

Q1  $1\frac{1}{12} \times 4 \Rightarrow 4\frac{1}{3} \text{ litres}$

Q2  $63 \div 3 \rightarrow 21$   
 $21 \times 5 \Rightarrow \underline{105 \text{ white tiles}}$

Q3  $1284 - 963 = 321$   
 $\frac{321}{1284} \times 100 \% \Rightarrow \underline{25 \%}$

Q4  $180^\circ - 123^\circ \rightarrow 57^\circ$   
 $57^\circ \div 3 \Rightarrow \underline{19^\circ}$

Q5  $57^\circ + 40^\circ \rightarrow 97^\circ$   
 $180^\circ - 97^\circ \Rightarrow \underline{83^\circ}$

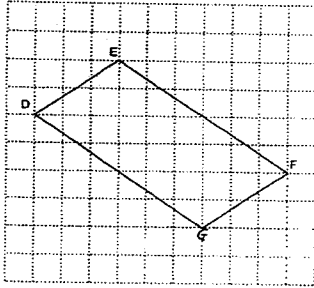
Q6  $10\frac{1}{3} \text{ m} - 2\frac{1}{5} \text{ m} = 8\frac{2}{15} \text{ m}$   
 $8\frac{2}{15} \text{ m} \times 2 = 16\frac{4}{15} \text{ m}$   
 $10\frac{1}{3} \text{ m} \times 2 = 20\frac{2}{3} \text{ m}$   
 $16\frac{4}{15} \text{ m} + 20\frac{2}{3} \text{ m} \Rightarrow 36\frac{14}{15} \text{ m}$

Q7  $A \rightarrow 1u$   
 $G \rightarrow 2u$   
 $1u \rightarrow 60$   
 $4u + 2u = 6u$   
 $6u \rightarrow 60 \times 6 \Rightarrow \underline{360 \text{ children}}$

Q8  $30 \times 12 \times 16 = 5750$   
 $30 \times 12 \times 11 = 3960$   
 $5760 - 3960 \Rightarrow \underline{1800 \text{ ml}}$

Q9  $49 \times 4 = 196$   
 $196 - 8 = 188$   
 $188 \div 4 \Rightarrow \underline{47 \text{ kg}}$

Q10a



Q10b

Parallelogram

Q11

$$\begin{aligned} Z &: E : L \\ 5u &: 3u : 4u \\ 5u &\rightarrow 190 \text{ (Z)} \\ 1u &\rightarrow 38 \\ 3u &\rightarrow 38 \times 3 = 114 \text{ (E)} \\ 4u &\rightarrow 38 \times 4 = 152 \text{ (L)} \\ 152 - 114 &= 38 \\ 190 - 38 &= 152 \\ 152 \div 2 &= 76 \\ 76 + 38 &\Rightarrow \underline{114 \text{ sweets}} \end{aligned}$$

Q12

$$\begin{aligned} 16 \div 4 &= 4 \\ 16 - 4 &= 12 \\ 12 \times 2 &= 24 \\ 12 \div 2 &= 6 \\ \frac{1}{2} \times 6 \times 16 &\Rightarrow \underline{48 \text{ cm}^2} \end{aligned}$$

Q13a

$$3 : 1 : 5$$

Q13b

$$\begin{aligned} 5 - 1 &= 4 \\ 4u &\rightarrow 288 \\ 1u &\rightarrow 288 \div 4 = 72 \\ 5u &\rightarrow 72 \times 5 \Rightarrow \underline{360 \text{ green beads}} \end{aligned}$$

Q14

$$\begin{aligned} C &\rightarrow 40 \% \\ E &\rightarrow 100 \% - 40 \% = 60 \% \\ 3 \times \$6 &= \$18 \\ \$18 + \$6 &= \$24 \\ \$168 \div \$24 &= 7 \\ 7 \times 2 &\Rightarrow \underline{14 \text{ cheese tarts}} \end{aligned}$$

Q15a  $180^\circ - 38^\circ = 142^\circ$   
 $142^\circ \div 2 = 71^\circ$   
 $180^\circ - 71^\circ \Rightarrow \underline{109^\circ}$

Q15b  $71^\circ - 47^\circ = 24^\circ$   
 $180^\circ - 24^\circ = 156^\circ$   
 $156^\circ \div 2 \Rightarrow \underline{78^\circ}$

Q16a  $\$0.97 \times 30 \Rightarrow \underline{\$29.10}$

Q16b  $\$162.70 - \$29.10 = \$133.60$   
 $\$1.12 \times 30 = \$33.60$   
 $\$133.60 - \$33.60 = \$100.00$   
 $\$100.00 \div \$2 = 50$   
 $50 + 30 + 30 \Rightarrow \underline{110 \text{ units}}$

Q17  $\$168 \times 2 = \$336.00$   
 $\$336 + \$168 = \$504.00$   
 $\$504 \div 4 \Rightarrow \underline{\$126.00}$

Q18 Full  $\rightarrow 26 \times 18 \times 48 = 22464$   
Overflow  $\rightarrow 794$   
 $22464 - 794 = 21670$   
 $21670 - 18800 = 2870$   
 $2870 + 794 = 3664$   
 $3664 + 794 = 4458$   
 $4458 \div 3 \Rightarrow \underline{1486 \text{ cm}^3}$

End