CATHOLIC HIGH SCHOOL

SEMESTRAL ASSESSMENT (2018)

PRIMARY SIX

MATHEMATICS

PAPER 1

(BOOKLET A)

Name : _____( )

Class : Primary 6 _____

Date : 9 May 2018

Total Time for Booklets A and B: 1 hour

15 questions

20 marks

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.

Follow all instructions carefully.

Answer all questions.

Shade your answers in the Optical Answer Sheet (OAS) provided.

The use of calculators is **NOT** allowed.

Booklet A and B consist of 12 printed pages excluding the cover page.

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. (20 marks)

---

1. Which digit in 9.876 is in the hundredths place?

   (1) 6

   (2) 7

   (3) 8

   (4) 9

---

2. Which of the following numbers is the smallest?

   (1) 0.015

   (2) 0.051

   (3) 0.501

   (4) 0.105

---

3. $60 + \frac{6}{10} + \frac{6}{1000} =$ _____.

   (1) 66.6

   (2) 60.66

   (3) 60.066

   (4) 60.606

---

4. Find the value of $80 - 24 \div 4 + 2$

   (1) 16

   (2) 28

   (3) 72

   (4) 76

---

5. Which of the following is likely the mass of a classroom chair?

(1) 0.03 kg

(2) 0.3 kg

(3) 3 kg

(4) 30 kg

---

6. 234 092 people signed up for a charity run. Round the number to the nearest thousand.

(1) 234 000

(2) 234 100

(3) 235 000

(4) 235 100

---

7. Which one of the following is the same as $5 \div \frac{2}{3}$?

(1) $\frac{1}{5} \times \frac{2}{3}$

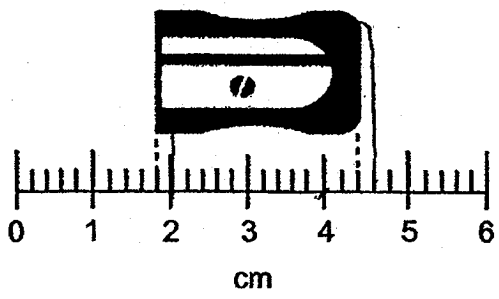
(2) $\frac{1}{5} \times \frac{3}{2}$

(3) $\frac{5}{1} \times \frac{2}{3}$

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

---

8. A sharpener is placed on a scale as shown.
What is the length of the sharpener as shown on the scale?



(1) 2.3 cm

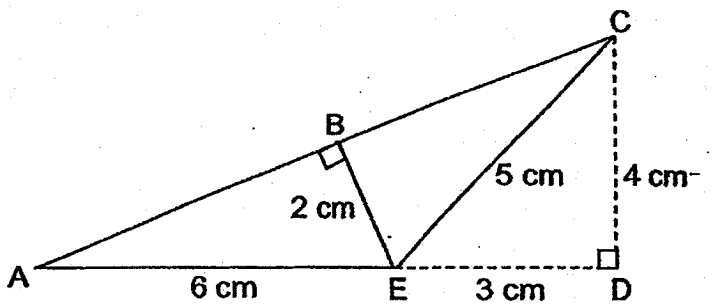
(2) 2.6 cm

(3) 4.2 cm

(4) 4.4 cm

---

9. What is the area of triangle ACE as shown in the figure?



(1) 12 cm^2

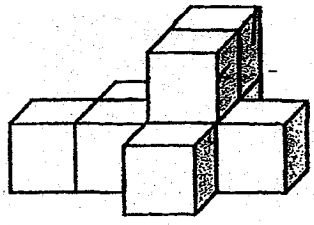
(2) 15 cm^2

(3) 18 cm^2

(4) 36 cm^2

---

10. The solid shown is formed using unit cubes. How many unit cubes are used to form the solid?



(1) 6

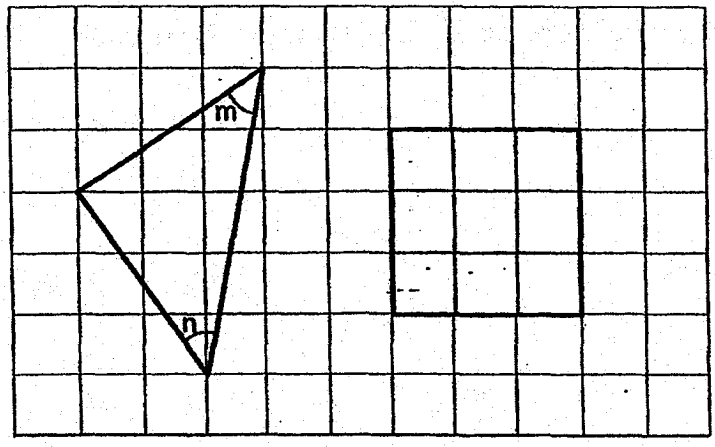
(2) 7

(3) 8

(4) 9

---

11. A triangle and a square are shown in the square grid below.



Which of the following statement(s) is/are true?

Statement A : $\angle m$ is equal to $\angle n$.

Statement B : The square has both parallel and perpendicular sides.

Statement C : The triangle has a greater area than the square.

(1) A and B only

(2) B and C only

(3) A and C only

(4) A, B and C

(Go on to the next page)

12. A bowl contains red, green and black beans. $\frac{1}{9}$ of the beans are red. $\frac{1}{4}$ of the remaining beans are green and the rest are black beans. What fraction of the beans in the bowl are black?

(1) $\frac{5}{36}$

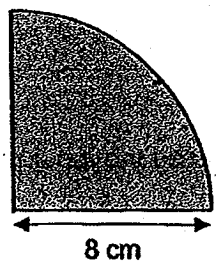
(2) $\frac{23}{36}$

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

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

---

13. The shaded figure is a quarter circle of radius 8 cm.
What is the perimeter of the shaded figure?
Leave the answer in terms of π.



(1) $(2\pi + 16)$ cm

(2) $(4\pi + 16)$ cm

(3) $(8\pi + 16)$ cm

(4) $(16\pi + 16)$ cm

(Go on to the next page)

14. Red and white erasers are both placed in box A and box B. Box A has as many erasers as box B. The ratio of the number of red erasers to the number of white erasers in box A is 3 : 2 and in box B, it is 7 : 8. What is the ratio of the total number of red erasers to the total number of white erasers?

(1) 1 : 1

(2) 6 : 9

(3) 8 : 7

(4) 21 : 16

---

15. Four teams of hair stylists provide haircut services to raise funds for charity. For each haircut, customers with short hair are charged $20 and customers with long hair are charged $30. The table shows the number of haircuts completed by the various teams.

Team	Number of haircuts	
	Number of customers with short hair	Number of customers with long hair
A	6	8
B	8	7
C	11	6
D	12	5

Which of the four teams collected the most money for charity?

(1) A

(2) B

(3) C

(4) D

END OF BOOKLET A

CATHOLIC HIGH SCHOOL

SEMESTRAL ASSESSMENT (2018)

PRIMARY SIX

MATHEMATICS

PAPER 1

(BOOKLET B)

Name : _____( )

Class : Primary 6 _____

Date : 9 May 2018

Total Time for Booklets A and B: 1 hour

15 questions

25 marks

Booklet A	
Booklet B	
Total	

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.

Follow all instructions carefully.

Answer all questions.

Write your answers in this booklet.

The use of calculators is **NOT** allowed.

Booklet A and B consist of 12 printed pages excluding the cover page.

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. All diagrams are not drawn to scale. (5 marks)

Do not write In this space

16. Find the value of 7.03 x 80.

Ans:_____

17. 1 million is _____ more than 600 999.

Ans:_____

18. Write down all the common factors of 12 and 16.

Ans:_____

(Go on to the next page)

19. The first 16 numbers of a number pattern are given below.

Do not write in this space

2 1 3 0 5 2 1 3 0 5 2 1 3 0 5 2
1st 16th

What is the 76th number?

Ans: _____

20. Express 0.7% as a fraction.

Ans: _____

Total marks for questions 16 to 20

5

(Go on to the next page)

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. All diagrams are not drawn to scale. 20 marks)

Do not write in this space

21. Gareth completed a race in 190 seconds. He was 25 seconds faster than Raja. How long did Raja take to complete the race?
Leave your answer in minutes and seconds.

Ans:_____min_____s

22. The fifth multiple of a 1-digit number is 24 more than its second multiple. What is seventh multiple of the 1-digit number?

Ans:_____

23. The airmail rates for a parcel to Hong Kong is shown below.

Mass Step	**Hong Kong**
First 500 g	$12.00
Every additional 100 g	$ 2.50

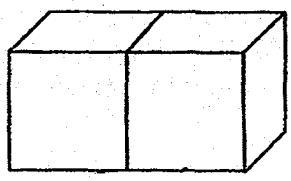
Audrey sent a parcel weighing 650 g to Hong Kong. How much did she pay for the mail?

Ans:$_____

(Go on to the next page)

24. Two cubes are glued together to form the solid below. All the faces of the solid are painted covering a total surface area of 160 cm^2. What is the volume of one cube?

Do not write in this space



Ans: _____ cm^3

25. Peter was given a fixed monthly allowance. In January, he spent \$160. He spent \$200 in February. Find the percentage increase in his expenditure.

Ans: _____ %

26. At a café, Alan paid \$9.50 for a Swiss roll and 2 curry puffs.
Ben paid \$18.50 for a Swiss roll and 8 curry puffs.
What is the total cost of 3 curry puffs?

Ans: \$_____

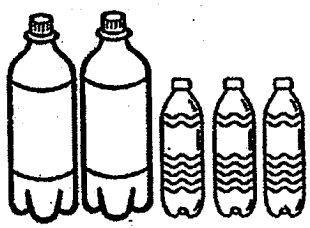
(Go on to the next page)

Do not write in this space

27. A string is cut into three shorter pieces. The first piece is $\frac{6}{7}$ the length of the second piece but 3 times as long as the third piece. Express the length of the longest piece of string as a fraction of the total length of all 3 pieces.

Ans: _____

28. Justus fills two types of bottles, small and large, completely with water 27 ℓ of water is used to fill 12 small bottles and 2 large bottles. The total capacity of 2 large bottles is the same as the total capacity of 3 small bottles of water. What is the capacity of a large bottle of water? Leave your answer in litres.

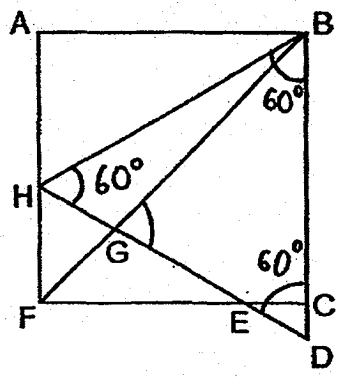


Ans: _____ ℓ

(Go on to the next page)

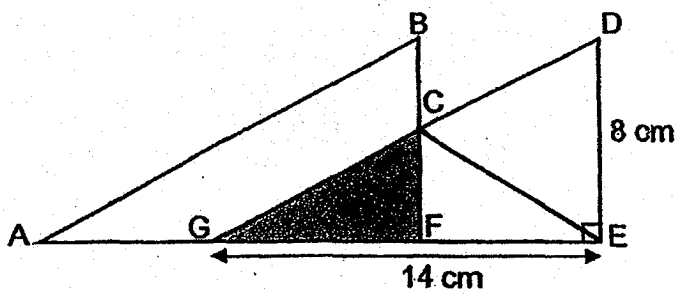
29. In the figure below, ABCF is a square, HBD is an equilateral triangle and BGF is a straight line. Find ∠BGD.

Do not write in this space



Ans: _____ °

30. The figure below is formed by two identical triangles, ABF and GDE, overlapping each other. The figure has an area of 96 cm². AGFE is a straight line. Find the area of the shaded triangle GCF.



Ans: _____ cm²

Total marks for questions 21 to 30

20

END OF BOOKLET B
END OF PAPER 1

CATHOLIC HIGH SCHOOL

SEMESTRAL ASSESSMENT (2018)

PRIMARY SIX

MATHEMATICS

PAPER 2

Name : _____( )

Class : Primary 6 _____

Date : 9 May 2018

Total Time: 1 h 30 min

17 questions

55 marks

Parent's Signature: _____

Paper 1 Booklet A	/20
Paper 1 Booklet B	/25
Paper 2	/55
Total Marks	/100

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.

Follow all instructions carefully.

Answer all questions.

Write your answers in this booklet.

The use of an approved calculator is expected, where appropriate.

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

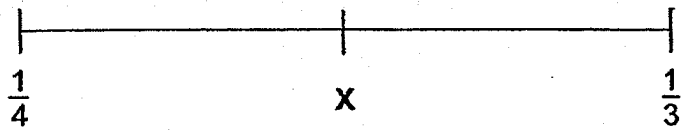
Questions **1** to **5** carry 2 marks each. Show your working clearly in the space below each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. All diagrams are not drawn to scale. (10 marks)

Do not write in this space

1. For every \$5 saved by Ahmad, his father gave him \$1.
How much was saved by Ahmad if he had a total of \$648 in his savings?

Ans:\$_____

2. Look at the number line below. The number line is marked at equal intervals. What is the value of X? Leave the answer as a fraction.



Ans: _____

(Go on to the next page)

Do not write in this space

3. Mrs Lim uses the recipe below to make rose syrup milk drink.

Rose syrup milk drink recipe (makes 5 cups)
300 ml rose syrup
200 ml evaporated milk
1000 ml water

She has $1\frac{1}{2}$ ℓ of rose syrup, 900 ml of evaporated milk and 3 ℓ of water. What is the greatest number of cups of rose syrup milk drink she can make?

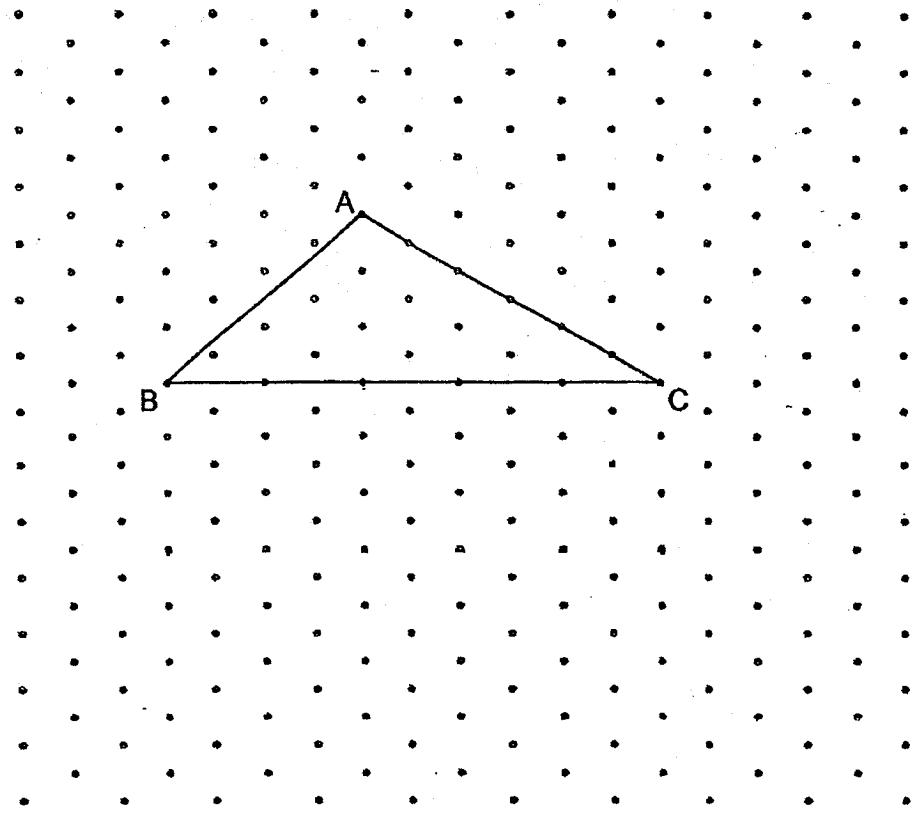
Ans: _____

4. A bakery had a number of buns for sale. After selling 150 in the morning and $\frac{5}{7}$ of the remainder in the afternoon, he was left with 120 buns. How many buns were sold altogether?

Ans: _____

5. The figure below shows a triangle ABC drawn on a grid.

Do not write in this space



(a) BCDE is a rectangle with an area twice that of the triangle ABC. Draw BCDE on the grid above.

(b) Draw line CF on the grid such that it is perpendicular to line AC.

For questions **6** to **17**, 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

(45 marks)

Do not write in this space

6. Jack had a piece of rope $\frac{4}{5}$ m long. She cut it into $\frac{3}{10}$ m pieces.

(a) How many $\frac{3}{10}$ m pieces of rope were there at most?

(b) What was the length of the piece of rope left over?

Ans: (a) _____ [1]

(b) _____ [2]

(Go on to the next page)

7. The table below shows the number of books read by each pupil in a class of 30 pupils. One of the numbers in the table is covered by an ink blot.

Do not write in this space

Number of books read by each pupil	0	y	
Number of pupils	10	14	6

The average number of books read by the pupils in the class is y.

(a) Find the total number books read by the class.

(b) What is the number covered by the ink blot?

Leave your answer in terms of y for (a) and (b).

Ans: (a)_____ [1]

(b)_____ [2]

(Go on to the next page)

8. Mr Sim needs 220 pieces of string, each of length 30 cm, to tie parcels. String is sold in rolls of 20 m each. What is the least number of rolls of string that Mr Sim needs to buy?

Do not write in this space

Ans:_____ [3]

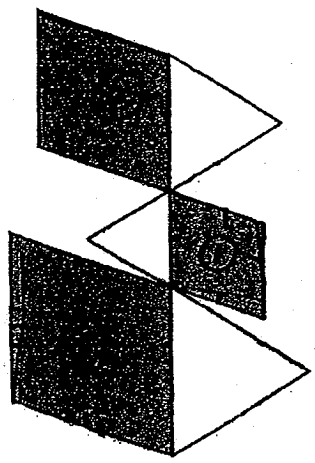
(Go on to the next page)

9. Mrs Tan took 25 minutes while Mrs Lee took 40 minutes to make the same number of dumplings. Mrs Tan made 12 more dumplings in one minute than Mrs Lee. How many dumplings did Mrs Lee make in one minute?

Do not write in this space

Ans:_____ [3]

10 The figure below is formed using 3 rhombuses and 3 equilateral triangles. The perimeter of the shaded rhombuses is 60 cm. What is the perimeter of the figure?



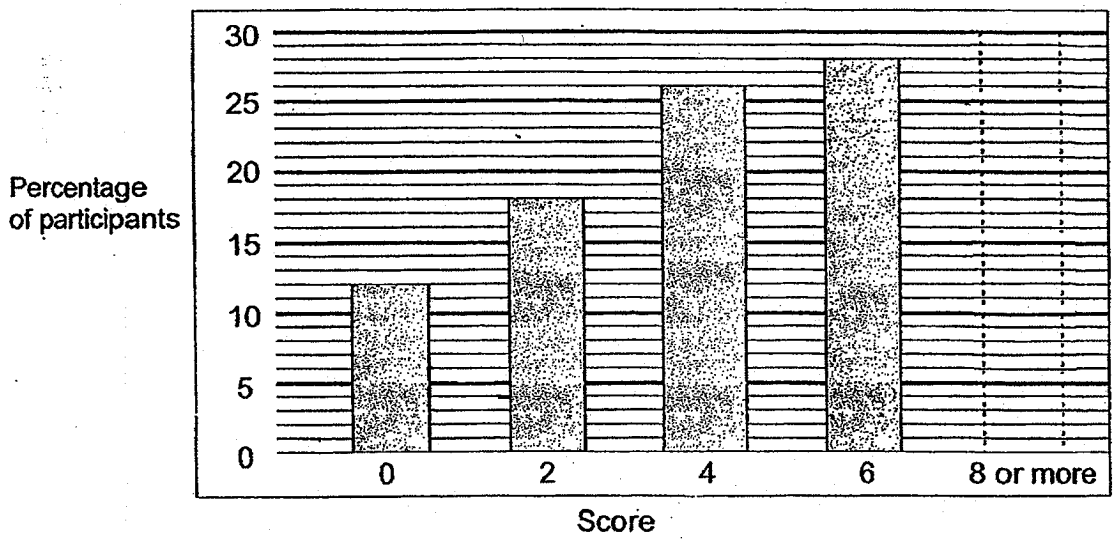
Do not write in this space

Ans: _____ [3]

11. Participants of a competition must obtain a certain score in the first round to qualify for the second round. The table shows the number of participants for each score in the first round. The lowest score is 0. There were 150 participants in the first round.

Do not write in this space

Score	Number of Participants
0	18
2	27
4	39
6	42
8 or more	24



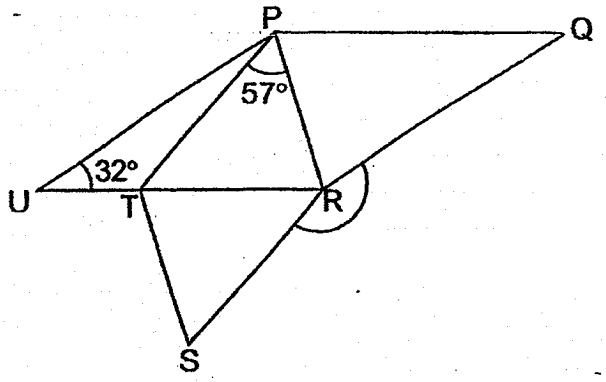
(a) 30% of the participants did not qualify for the second round. From the table, what was the lowest score of a participant who qualified for the second round?

(b) What percentage of the participants obtained a score of '8 or more'? Draw the bar for the percentage of participants who obtained a score of '8 or more' in the graph above. [2]

Ans: (a)_____ [2]

12. In the figure, PQRU is a rhombus and PRST is a parallelogram. $\angle TPR = 57°$ and $\angle RUP = 32°$. Find $\angle SRQ$.

Do not write in this space



Ans: _____ [4]

13. Cindy bought a musical box and a watch at a discount. 20% discount was given to the musical box and the total discount given for both items was $140. She paid a total of $600 and paid $120 more for the watch than the musical box.

Do not write in this space

(a) How much did she pay for the musical box?

(b) What was the percentage discount given for the watch? Round the answer to 1 decimal place.

Ans: (a)_____ [1]

(b)_____ [3]

14. Alan was given a total of 208 game cards. He wanted more cards so he bought the same number of cards each day for the next 10 days. At the end of the fifth day, he had bought $\frac{5}{23}$ of the total number of cards How many game cards did he collect in the 5 days?

Do not write in this space

Ans:_____ [4]

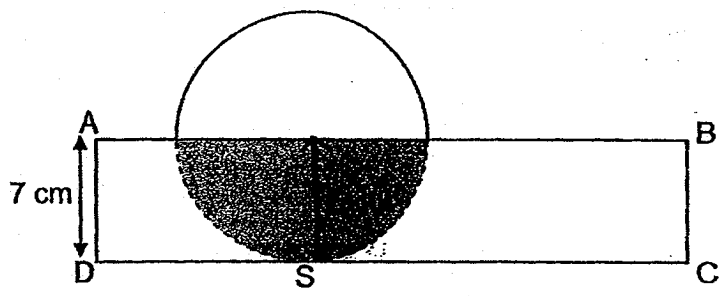
15. The number of blue pens that Mrs Li had was $\frac{6}{5}$ of the number of red pens. Her son took 52 red pens and 24 blue pens from her. After that, the number of red pens became $\frac{1}{6}$ of the number of blue pens.
How many blue pens did Mrs Li have in the end?

Do not write in this space

Ans: _____ [4]

16. In the figure below, rectangle ABCD overlaps a circle with AB passing through the centre of the circle and DC touching a point, S, on the circumference of the circle. The area of the shaded part is $\frac{1}{3}$ of the area of the rectangle.

Do not write in this space



(a) Find the length of CD.

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

Ans: (a)_____ [2]

(b)_____ [3]

(Go on to the next page)

17. Sticks of the same length are used to form figures that follow a pattern. The first five figures are shown below.

Do not write in this space

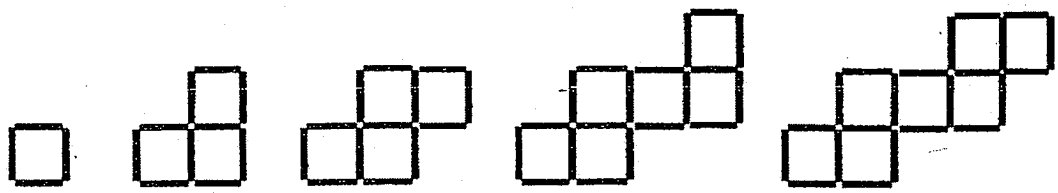


Figure 1 Figure 2 Figure 3 Figure 4 Figure 5

The table below shows the number of sticks used for each figure and the number of squares formed in each figure.

Figure Number	Number of sticks used	Number of squares
1	4	1
2	10	3
3	13	4
4	19	6
5	22	7
6		

[1]

(a) Complete the table for Figure 6.

(b) How many squares are there in Figure 50?

(c) How many sticks are used in Figure 101?

Ans: (b)_____ [2]

(c)_____ [2]

END OF PAPER 2

SCHOOL : CATHOLIC HIGH PRIMARY SCHOOL

LEVEL : PRIMARY 6
SUBJECT : MATH
TERM : 2018 SA1

PAPER 1 BOOKLET A

Q 1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
2	1	4	4	3	1	4	2	1	4
Q 11	Q12	Q13	Q14	Q15					
1	4	2	3	3					

PAPER 1 BOOKLET B

Q16)	**562.4**
Q17)	1000000 – 600999 = **399001**
Q18)	12 : 1, 2, 3, 4, 6, 12 16 : 1, 2, 4, 8 Common factor : **1, 2, 4**
Q19)	Group of 5 : 76 ÷ 5 = 15 R1 (**Ans: 2)**
Q20)	0.7/100 = **7 / 1000**
Q21)	190 + 25 = 215 215 s = **3 min 35s**
Q22)	**56**
Q23)	$12 + $2.50 + $2.50 = **$17.00**
Q24)	10 faces —> 160 1 face —> 160 ÷ 10 = 16 4 x 4 = 16 Vol —> 4 cm x 4 cm x 4 cm = **64 cm^3**
Q25)	Original amount —> 160 Increase —> $200 - $160 = $40 % increase —> $40/$160 x 100% = **25%**

Q26) SW + 2CP = $9.50
SW + 8CP = $18.50
SW + 2CP + 6CP = $18.50
$9.50 + 6CP = $18.50
6CP = $18.50 - $9.50
= $9.00
3CP = **$4.50**

Q27) **7/15**

Q28) 27 = 12S + 2L
2L = 3S
12S = 2L x 4 = 8L
27 = 8L + 2L
= 10L
1L = 27 ÷ 10 = **2.7**

Q29) 180 - 45 – 60 = **75**

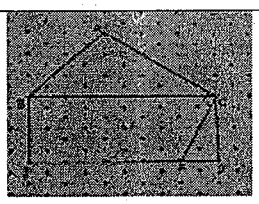
Q30) Area of triangle —> ½ x 14 x 8 = 56
56 x 2 = 112
Area of shaded —> 112 cm^2 – 96 cm^2 = **16 cm^2**

PAPER 2

Q1) 1 group —> $5 + $1 = $6
Largest number of groups —> $648 ÷ $6 = 108
Amount Father gave —> $1 x 108 = $108
Amount Ahmad saved —> $648 - $108 = **$540**

Q2) ¼ = 3/12 = 6/24
1/3 = 4/12 = 8/24
X —> 8/24 - 1/24 = **7/24**

Q3) 1 1/2 litres = 1500 ml
Rose —> 1500 ÷ 300 = 3
Milk —> 900 ml ÷ 200ml = 4 R 100 ml
4 – 1 = 3
Water—> 3000 ml ÷ 1000ml = 3
Cups —> 3 x 5 = **15**

Q4)	2u —> 120 1U—> 120 ÷ 2 = 60 5U—>60 x 5 = 300 Total buns sold —>300 + 150 = **<u>450</u>**
Q5)	
Q6)	a) Most number of pieces —> 4/5 ÷ 3/10 = 4/5 x 10/3 = 8/3 (**Ans : <u>2</u>**) b) Rope left over = 8/10 - 6/10 = 2/10 2/10 = 1/5 **(Ans : <u>1/5 m</u>)**
Q7)	a) 30 x y=**<u>30y</u>** **b)** (30y -14y – 0y) ÷ 6 = **<u>8y/3</u>**
Q8)	20 m = 2000 m 1 roll —> 2000 ÷ 30 = 66 R 20 cm (66 pieces) 220 ÷ 66 = 3 R 22 **Ans: <u>4 rolls</u>**
Q9)	12 x 25 = 300 40 – 25 = 15 300 ÷ 15 = **<u>20</u>**
Q10)	If only consider Rhombus, there are only 4 sides for each rhombus. By adding the triangles, the total sides for each rhombus and triangle will be 5 sides. 4 sides (All 3 rhombus) → 60 cm2 (4S) 1S → 60 ÷ 4 = 15 5 sides (All 3 rhombus + 3 triangles) → 15 x 5 = **<u>75</u>**
Q11)	a) 30/100 x 150 = **<u>45</u>** b) 24/150 x 100% = **<u>16% (Draw the bar to 16%)</u>**
Q12)	Angle RPQ = (180^O - 32^O) ÷ 2 Angle PRS —> 180^O - 57^O = 123^O. Angle SRQ —> 360^O - 123^O – 74^O = **<u>163^O</u>**

Q13) a) 2U —> \$600 - \$120 = \$480
1U —> \$480 ÷ 2 = **\$240**

b) 80% M —> \$240
1% M —> \$240 ÷ 80 = \$3
20% M —> \$3 x 20 = \$60
\$140 - \$60 = \$80
100%W —> \$80 + \$120 + \$240 = \$440
1%W —> \$4.40
\$80 ÷ \$4.40 = **18.2%**

Q14) Let the number of cards bought each day be u
5 days —> 5u
At first —> 208
In the end —> 208 + 10u = 23u
208 = 13u
1u = 208 ÷ 13
= 16
5u = 16 x 5 = **80**

Q15)

	B	:	R
At first →	6u	:	5u
	-24		-52
In the end →	6p	:	1p

6u – 24 = 6p
5u - 52 = 1p
30u - 312=6p
24u – 312 - (- 24) = 0
24u – 312 + 24 = 0
24u – 288 = 0
24u = 260
1u = 260 ÷ 24
= 12
6u —> 12 x 6 = 72
Blue pen —> 72 – 24 = **48**

Q16) a) Area of semi-circle —> ½ x 22/7 x 7 x 7 = 77 cm^2
77 cm^2 = 1/3 rect
3/3 rect —> 77 x 3 = 231 cm^2
DC —> 231 cm^2 ÷ 7 = **33 cm**

b) Length of semi —> ½ x 22/7 x 14 = 22 cm
33 – 14 = 19
Total perimeter —> (19 + 22 + 7 + 33 + 7) cm = **88 cm**

Q17) a) Number of sticks used —> 28
Number of squares —> **9**

b) 50 ÷ 2 = 25
50 + 25 = **75**

c) 100 ÷ 2 = 50
50 x 9 = 450
450 + 4 = **454**