603 / SA1 / 11

2022 PRIMARY 6 MID-YEAR EXAMINATION

Name : _____ ( ) Date: 11 MAY 2022

Class : Primary 6 ( ) Time: 8.00 a.m. - 9.00 a.m.

Parent's Signature : _____

Paper 1 comprises 2 booklets, A and B.

MATHEMATICS
PAPER 1
(BOOKLET A)

20

INSTRUCTIONS TO CANDIDATES

1. Write your name, class and register number.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Shade your answers in the Optical Answer Sheet (OAS) provided.
6. 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 oval (1, 2, 3 or 4) on the Optical Answer Sheet. [20 marks]

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1. Round 313 798 to the nearest thousand.

   (1) 313 800
   (2) 313 700
   (3) 313 000
   (4) 314 000

2. Which one of the following numbers is the smallest?

   (1) 0.081
   (2) 0.108
   (3) 0.180
   (4) 1.018

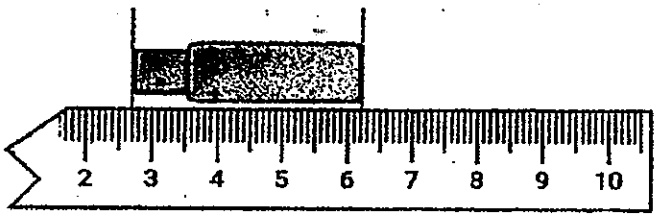
3. In a class of 60 students, 26 of them are boys.
   What is the ratio of the number of girls to the number of boys in the class?

   (1) 13 : 30
   (2) 13 : 17
   (3) 17 : 13
   (4) 30 : 13

4. A robot can serve 6 cups of coffee in 1 minute.
   How much time does this robot take to serve 1 cup of coffee?

   (1) 6 s
   (2) 10 s
   (3) $\frac{1}{6}$ s
   (4) $\frac{1}{10}$ s

5. What is the length of the thumb drive shown below?



(1) 2.7 cm

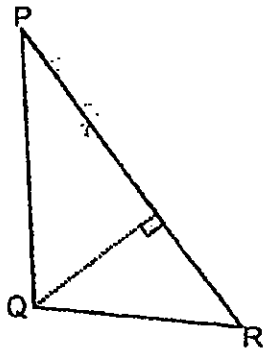
(2) 3.5 cm

(3) 4.0 cm

(4) 6.2 cm

6. Which one of the following pairs is the base and height of Triangle PQR?

	Base	Height
(1)	PQ	QR
(2)	PJ	QJ
(3)	PR	QR
(4)	PR	QJ



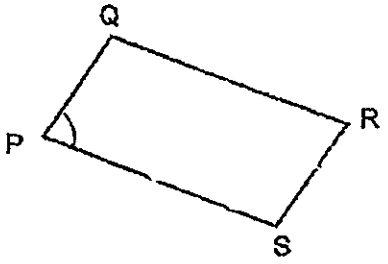
7. PQRS is a parallelogram. Which of the following is **false**?

(1) $\angle PQR + \angle QRS = 180°$

(2) $\angle SPQ + \angle PQR = 180°$

(3) $\angle QRS = \angle SPQ$

(4) $\angle RSP = \angle SPQ$



8. Tom had 36 red beads and John had 28 green beads. Each of them packed their own beads equally into smaller bags with no remainder. After packing, they had the same number of beads in each bag. What is the maximum number of beads packed in each bag?

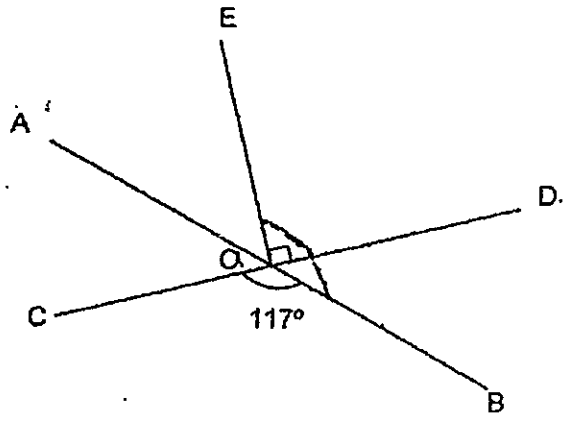
(1) 9

(2) 7

(3) 6

(4) 4

9. The figure below is not drawn to scale. AB and CD are straight lines. Find $\angle EOB$.



(1) 27°

(2) 63°

(3) 117°

(4) 153°

10. What fraction of the families have at least one child?

Number of children per family	Number of families
0	7
1	9
2	3
3	1

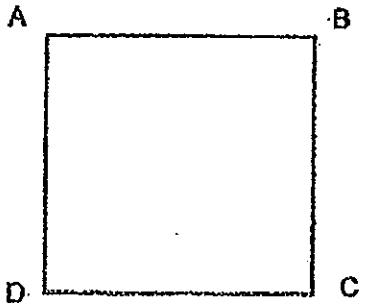
(1) $\frac{7}{20}$

(2) $\frac{9}{20}$

(3) $\frac{13}{20}$

(4) $\frac{19}{20}$

11. An ant crawled from Point A round Square ABCD in a clockwise direction. After crawling for one round, it continued to crawl in the same direction and then stopped at Point B. On which side of the square was the ant when it covered 70% of the total distance it had crawled?



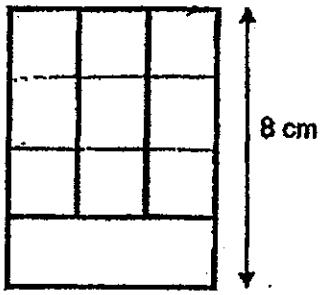
(1) AB

(2) BC

(3) CD

(4) DA

12. The figure below is made up of 4 identical rectangles.
Find the area of each rectangle.



(1) 4 cm^2

(2) 12 cm^2

(3) 32 cm^2

(4) 48 cm^2

13. Govin is m years old now. In 12 years' time, his father will be four times as old as he. How old is Govin's father now?

(1) (4m + 12) years

(2) (4m + 24) years

(3) (4m + 36) years

(4) (4m + 48) years

14. A baker sold 60 cakes in 3 days. Each day, he sold 5 cakes fewer than the previous day. Find the number of cakes he sold on the first day.

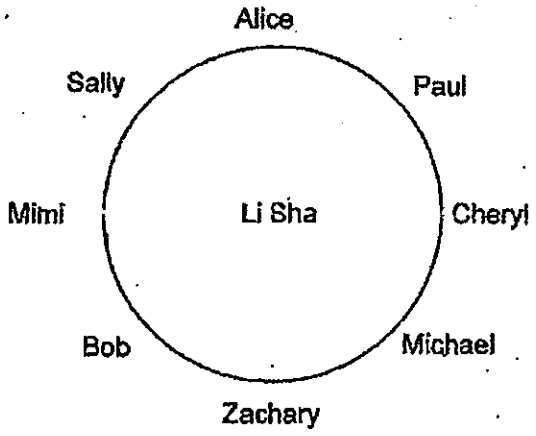
(1) 15

(2) 20

(3) 25

(4) 30

15. Li Sha stood at the centre of a circular path.
Her 8 friends stood around her and spaced themselves out equally as shown below. Li Sha made a 90° anti-clockwise turn followed by a 135° clockwise turn. In the end, Li Sha was facing Mimi. Who was Li Sha facing at first?



(1) Alice
(2) Bob
(3) Paul
(4) Sally

2022 PRIMARY 6 MID – YEAR EXAMINATION

Name : _____ ( ) Date: 11 MAY 2022

Class : Primary 6 ( ) Time: 8.00 a.m. - 9.00 a.m.

Parent's Signature : _____

Paper 1 comprises 2 booklets, A and B.

MATHEMATICS
PAPER 1
(BOOKLET B)

25

INSTRUCTIONS TO CANDIDATE

1. Write your name, class and register number.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Use a dark blue or black ballpoint pen to write your answers in the space provided for each question.
6. Do **not** use correction tape or highlighters.
7. You are **not** allowed to use a calculator.

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)

16. Find the value of $12.16 \div 4$.

Ans: _____

17. The perimeter of a square is 3 m. Find its area.

Ans: _____ m^2

18. Zack is 7 years old. Tom and Tim are 9 years old each.
Find the average age of the 3 boys.

Ans: _____ yrs _____ mths

19. Simplify $7s - 3 - s + 10$.

Ans: _____

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20. June made 90 pancakes. For every 10 pancakes, June used 4 eggs. How many eggs did she use altogether?

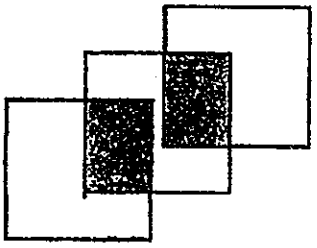
Ans: _____

Questions 21 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. (20 marks)

21 Miss Lee is between 30 and 50 years old this year and her age is a multiple of 6. Next year, her age will be a multiple of 7. How old is Miss Lee this year?

Ans: _____ years old

22. The figure below is made up of 3 identical squares, each with an area of 81 cm^2. The squares overlap each other as shown below. The overlapped parts are identical. Given that the area of the figure is 183 cm^2, find the area of the shaded parts.



Ans: _____ cm^2

23. At first, Mary only had 160 blue beads and some green beads.
After adding 12 red beads, 20% of her beads were green and red.
How many green beads did Mary have?

Ans: _____

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24. Madam Ling is going to bake some buns to sell.
In 30 minutes, she can bake 10% of the buns.
After every 2 hours of baking, she stops to rest for 1 hour.
How long will Madam Ling take to bake 100% of the buns?

Ans: _____ hours

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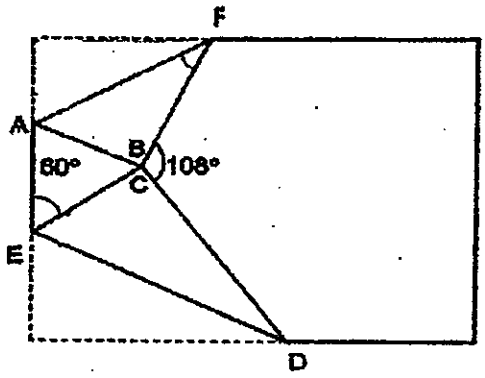
25. In the figure below, a rectangular piece of paper is folded at two of its corners B and C as shown. Find ∠AEC.



Ans: _____°

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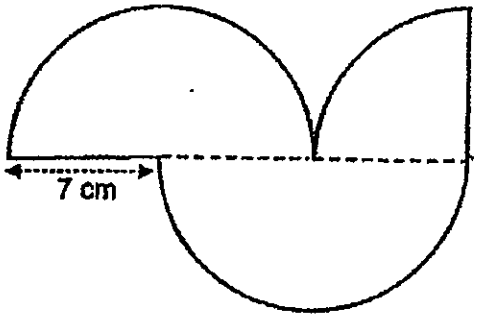
26. The figure below is made up of a quadrant and 2 identical semicircles of radius 7 cm. Find the perimeter of the figure. (Take $\pi = \frac{22}{7}$)



Ans: _____ cm

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27. Alicia bought a cake. She gave $\frac{3}{5}$ of the cake to her children and cut the remaining cake into 6 equal parts. What fraction of the cake was each piece?

Ans: _____

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28. Monica purchased 2 similar calculators and 3 similar files for $49.
Mr Chan purchased 1 such calculator and 4 such files for $32.
How much does each file cost?

Ans: $_____

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29. The distance travelled by some solar-powered race cars were recorded.
Jasper recorded 239 cm instead of 293 cm for one of the race cars.
All other distances were recorded accurately.
The average distance was recorded as 245.5 cm instead of 251.5 cm.
How many race cars were there?

Ans: _____

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30. Students at a camp are divided into Team A and Team B.
The ratio of the number of boys to the number of girls in Team A is 5 : 4.
The ratio of the number of boys to the number of girls in Team B is 5 : 1.
There are twice as many students in Team B as in Team A.
There are a total of 35 girls in Team A and Team B.
How many girls are there in Team A?

Ans: _____

End of Booklet B

End of Paper 1

2022 PRIMARY 6 MID-YEAR EXAMINATION

Name: _____ ( ) Date: 11 MAY 2022

Class: Primary 6 ( ) Time: 10.30 a.m. - 12.00 noon

Parent's Signature: _____

MATHEMATICS

PAPER 2

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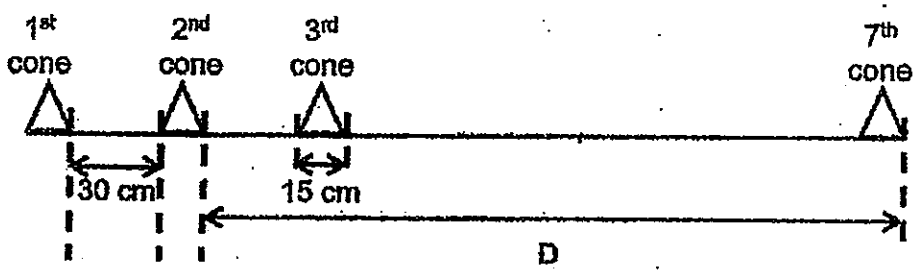
INSTRUCTIONS TO CANDIDATES

1. Write your name, class and register number.
2. Do not turn over this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Show your working clearly as marks are awarded for correct working.
6. Use a dark blue or black ballpoint pen to write your answers in the space provided for each question.
7. Do not use correction tape or highlighters for your solutions.
8. 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)

1. Seven identical cones are placed at equal intervals along a straight path as shown in the diagram below. Find distance D.



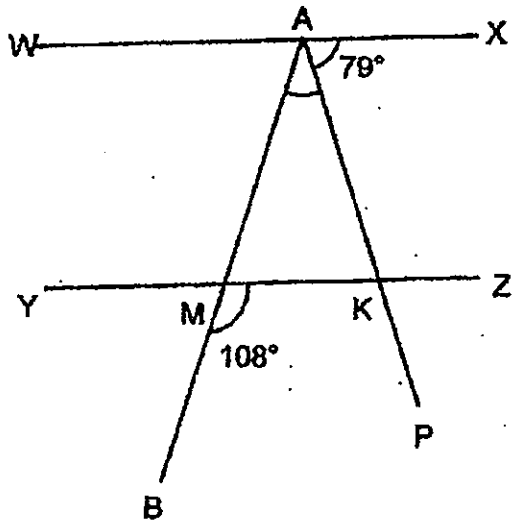
Ans: _____ cm

2. $\frac{7}{9}$ of Peter's pocket money is equal to $\frac{4}{5}$ of Jim's pocket money.

What is the ratio of Jim's pocket money to Peter's pocket money?

Ans: _____

3. AB and AP are straight lines.
WX is parallel to YZ. ∠BMZ is 108° and ∠PAX is 79°. Find ∠BAK.



Ans: _____°

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4. Aaron bought $(w + 1)$ bookmarks on Tuesday. He bought w more bookmarks on Wednesday than on Tuesday. He bought a total of 56 bookmarks on the two days. How many bookmarks did he buy on Tuesday?

Ans: _____

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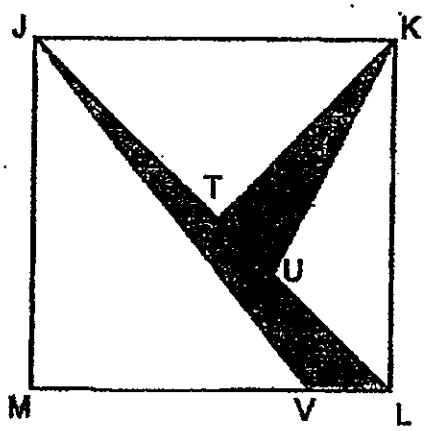
5. The square JKLM was cut into 5 parts. TK is equal to TL.
The ratio of the length of TU to the length of UL is 1 : 2 .
The ratio of the length of MV to the length of VL is 3 : 1 .
What fraction of the square is shaded?



Ans: _____

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)

6.

Special Offer!

1 Curry Puff $1.25

Buy 3 and get 1 free

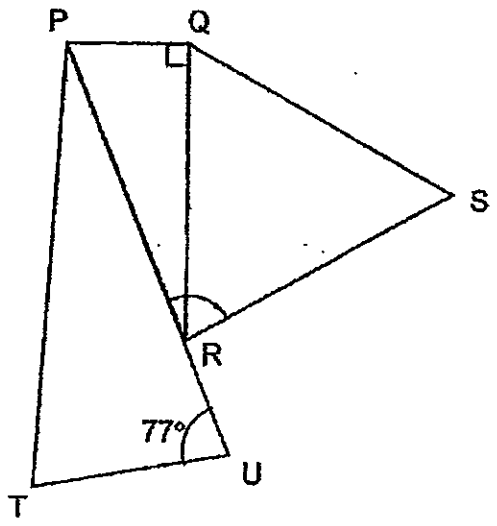
(a) Mrs Pang wants to buy 12 curry puffs. How much does she need to pay?

Ans: (a) _____ [1]

(b) Madam Li has $17. What is the maximum number of curry puffs she can purchase?

Ans : (b) _____ [2]

7. The figure below is made up of three triangles. QRS is an equilateral triangle and PQR is a right-angled triangle. PT = PU and ∠TUP = 77°.
Find the sum of ∠TPQ and ∠PRS.



Ans: _____ [3]

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8. Matt, John and David took part in a Math Quiz.
The table below shows the average scores of any two of the three boys.

Boys	Average Scores
Matt and John	75
Matt and David	81
John and David	92

What is the total score of the three boys?

Ans: _____ [3]

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9. Alvin, Bob and Calvin bought a present for their cousin at a gift shop.
They agreed to share the cost equally.
Alvin and Calvin paid for the present first.
The ratio of the amount Alvin paid to the amount Calvin paid was 6 : 7.
Later, Bob returned to Alvin $15.50 to pay for his share of the present.
Find the cost of the present.

Ans: _____ [3]

10. Sam and his brother took a cab from the Airport.
The fare charges of the cab service are as follows:

Distance travelled	Amount
1st km or less	$4.10
Every 400 m or less	$0.33
Airport Surcharge	$3.00
Luggage charge per piece	$1.00

They had a total of 3 pieces of luggage. The fare charged at the end of their journey was $26.60. What was the greatest distance travelled? *(Leave your answer in km)*

Ans: _____ [3]

11. Xiuqi was at a bookshop.

She spent $\frac{1}{3}$ of her money on 5 magnets and 11 paperclips.

The cost of each magnet is 3 times the cost of each paperclip.

She bought some more magnets with $\frac{3}{4}$ of her remaining money.

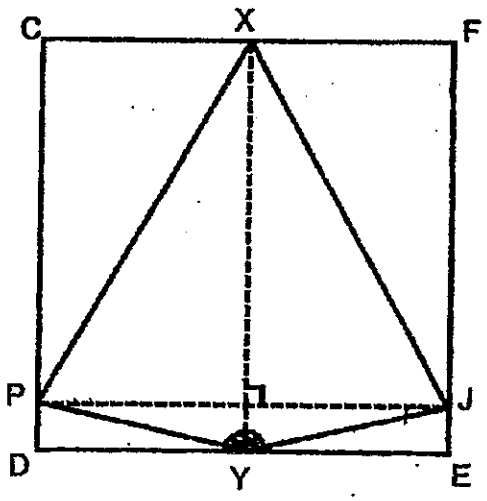
(a) How many magnets did Xiuqi buy altogether?

Ans: (a) _____ [2]

(b) If Xiuqi were to exchange all the magnets she bought for paperclips, how many paperclips would she have altogether?

Ans: (b) _____ [2]

12. In the diagram below, CDEF is a square and XP = XY = XJ = PJ.
PJ is parallel to DE and it is perpendicular to XY. Find ∠PYJ.



Ans: _____ [4]

13. 130 red and blue balloons were used at a Christmas Fair. When 15 blue balloons burst, the number of additional red balloons used increased by 75%. After that, there were 175 red and blue balloons left in total.

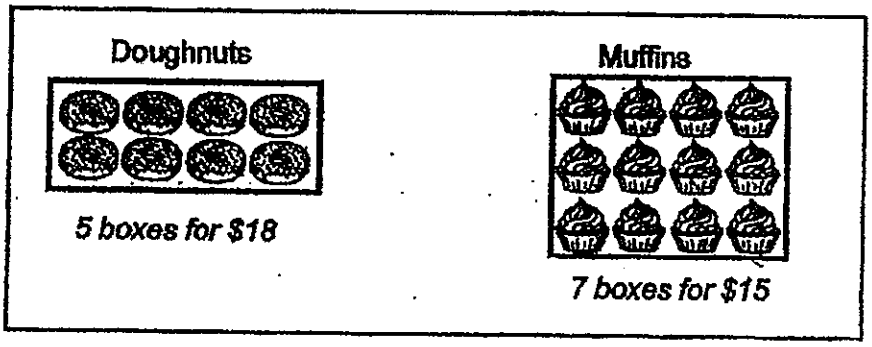
a) Find the number of additional red balloons used.

Ans: (a)_____[1]

b) Find the number of blue balloons at first.

Ans: (b)_____[3]

14. Doughnuts and muffins were packed and sold in boxes by ABC bakery. Mrs Tan and Mrs Lim bought doughnuts and muffins at the prices shown below.



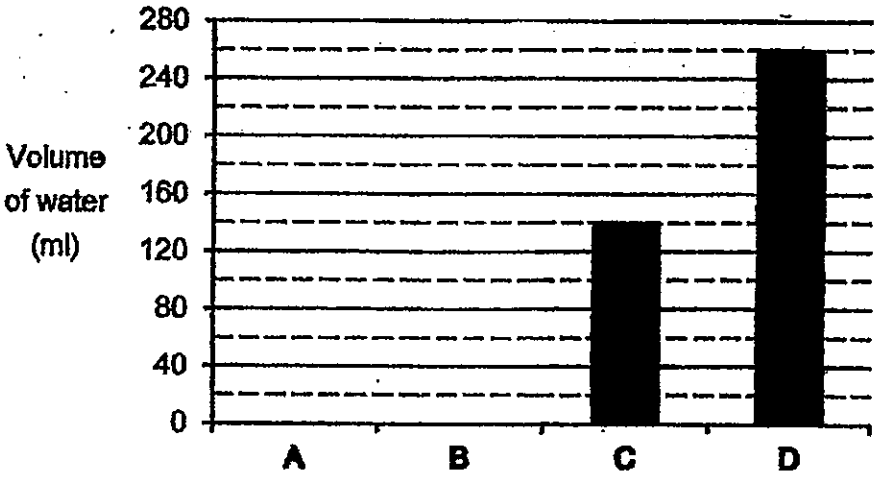
(a) Mrs Lim wanted to spend an equal amount of money on doughnuts and muffins. Find the least amount of money she would spend on the muffins.

Ans: a) _____ [2]

(b) Mrs Tan bought an equal number of boxes of doughnuts and muffins. Find the minimum number of doughnuts she bought.

Ans: b) _____ [2]

15. Jin Sun has 4 bottles labelled A, B, C and D respectively.
The bar graph below shows the volume of water in bottles C and D.
The bars that show the volume of water in Bottle A and Bottle B have not been drawn.



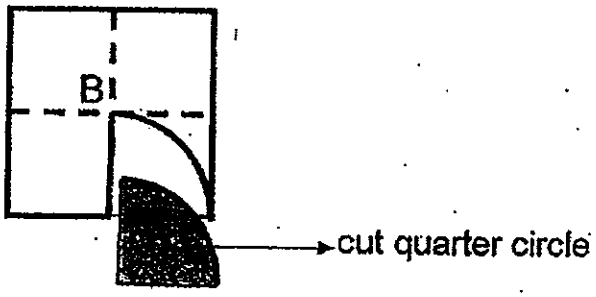
The ratio of the volume of water in Bottle A to the total volume of water in the 4 bottles is 2 : 9. Bottle B contains 50 ml more water than Bottle A.

(a) Find the total volume of water in the 4 bottles.

Ans : _____ [3]

(b) Draw in the bar graph above, the volume of water in Bottle B. [1]

16. Sam cut a quarter circle from a square piece of paper as shown below. B is the centre of the square paper. The perimeter of the cut quarter circle is 54 cm. The perimeter of the remaining piece of the square paper is 138 cm.



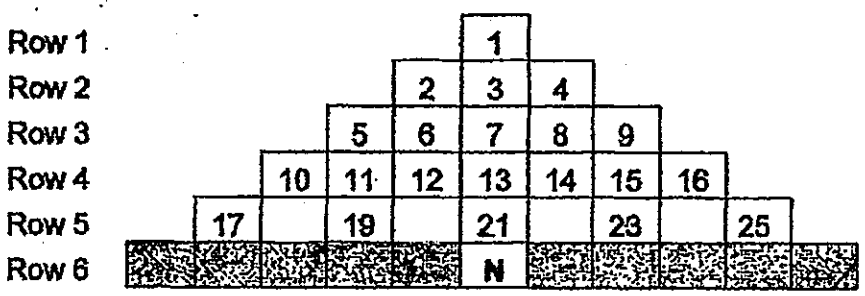
(a) Find the radius of the cut quarter circle.

Ans: (a)_____[2]

(b) Find the area of the remaining piece of the square paper.
(Take $\pi = \frac{22}{7}$)

Ans : (b)_____[3]

17. Numbers are written in order beginning from 1 as shown in the pattern below.



(a) Fill in the missing numbers in **Row 5**. [1]

(b) Find the number represented by the letter **N**.

Ans: (b) _____ [1]

(c) Find the greatest number in **Row 17**.

Ans: (c) _____ [1]

(d) Find the first number in **Row 10**.

Ans: (d) _____ [2]

End of Paper 2

SCHOOL : TAO NAN PRIMARY SCHOOL
LEVEL : PRIMARY 6
SUBJECT : MATHEMATICS
TERM : 2022 SA1

PAPER 1 BOOKLET A

Q 1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
4	1	3	2	2	4	4	4	4	3

Q 11	Q12	Q13	Q14	Q15
4	2	3	3	2

PAPER 1 BOOKLET B

Q16)	$12.16 \div 4 = 3.04$
Q17)	$3 \div 4 = \frac{3}{4}$ m $\frac{3}{4}$ m x $\frac{3}{4}$ m $= \frac{9}{16} m^2$
Q18)	Tom + Tim : 9 x 2 = 18 Total age = (7 + 18) years = 25 years Av. Age = 25 ÷ 3 = 8 R 1 $= 8\frac{1}{3}$ $8\frac{1}{3}$ years = 8 yrs 4 mths

Q19)

$7s - s + 10 - 3$

$= 6s + 7$

Q20)

1 set = 4 eggs

No. of sets = $90 \div 10$

$= 9$

No. of eggs used altogether = 9×4

$= 36$

Q21)

Multiple of 6	36 , 42 , 48
+1	37 , 43 , 49
Multiple of 7	35 , 42 , 49

$49 - 1 = 48$ years old

Q22)

Area of unshaded parts = $183cm^2$

Area of 3 squares = $81cm^2 \times 3$

$= 243cm^2$

Area of shaded parts = $243cm^2 - 183cm^2$

$= 60cm^2$

Q23)

80% of beads now = 160

20% of beads = $160 \div 4$

$= 40$

No. of green beads Mary have = $40 - 12$

$= 28$

Q24)

30 minutes : 10% of buns

60 minutes : 10% x 2 = 20% of buns

120 minutes : 40 %of buns

	120 minutes +1h = 180 minutes 240 minutes : 60% of buns 300 minutes : 80% of buns 300 minutes + 1h = 360 minutes 420 minutes = 100% of buns 420 minutes = 7 hours
Q25)	$< ABE = 360° - 108° - 90° - 90°$ $= 72°$ $< AEC = 180° - 60° - 72°$ $= 48°$
Q26)	$\frac{5}{4} \times 2 \times \frac{22}{7} \times 7 = 55$ $55 + 7 + 7 = 69\text{cm}$
Q27)	$1 - \frac{3}{5} = \frac{2}{5}$ $\frac{2}{5} \div 6 = \frac{2}{5} \times \frac{1}{6}$ $= \frac{2}{30}$ $= \frac{1}{15}$
Q28)	C = calculators F = files $2C + 3F = \$49$ x2 $1C + 4F = \$32$ $2C + 8F = \$64$ $8F - 3F = 5F$ $5F = \$64 - \$49$ $= \$15$ $1F = \$15 \div 5$ $= \$3$

Q29)	$293 - 239 = 54$ $251.5 - 245.5 = 6$ $54 \div 6 = 9$
Q30)	$4 \text{ units} + 3 \text{ units} = 7 \text{ units}$ $7 \text{ units} = 35$ $4 \text{ units} = 35 \div 7 \times 4$ $= 20$

PAPER 2

Q1)	$7 - 2 = 5$ $(30 + 15) \times 5 = 225\text{cm}$
Q2)	$\frac{7}{9}$ of Peter's pocket money $= \frac{4}{5}$ of Jim's pocket money Making numerator the same $\frac{28}{36}$ of Peter's pocket money $= \frac{28}{35}$ of Jim's pocket money Using the denominators J : P 35 : 36 The ratio is 35 : 36
Q3)	$< AMK = 180° - 108°$ $= 72°$ $< BAK = 180° - (72° + 79°)$ $= 29°$
Q4)	Wednesday $= (w + 1) + w$ $= (2w + 1)$ bookmarks $(2w + 1) + (w + 1) = (3w + 2)$ bookmarks $(3w + 2)$ bookmarks $= 56$ $3w$ bookmarks $= 56 - 2 = 54$

	W bookmarks = 54 ÷ 3 = 18 No. of bookmarks bought on Tuesday = 18 + 1 = 19
Q5)	$\frac{1}{3} \times \frac{1}{4} = \frac{1}{12}$ $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$ $\frac{1}{12} + \frac{1}{8} = \frac{5}{24}$
Q6)	a) 1 set = 3 + 1 = 4 No. of sets = 12 ÷ 4 = 3 Amt. of money she needs to pay = ($1.25 x 3) x 3 = $11.25 b) cost of 1 set = $1.25 x 3 = $3.75 No. of set = $17 ÷ $3.75 = 4 R 2 No. of curry puffs she can purchase = (4 x 4) + 1 = 17
Q7)	$< PTU = < PUT = 77°$ $< TPU = 180° - (77° \times 2)$ = 26° $< QRS = 60°$ $< TPQ = < PRS = 26° + 60° + 90°$ = 176°
Q8)	M + J = 75 x 2 = 150 M + D = 81 x 2 = 162 J + D = 92 x 2 = 184

	$2M + J + D = 312$ $J + D = 184$ $2M = 312 - 184 = 128$ $M = 128 \div 2 = 64$ $J = 150 - 64 = 86$ $D = 184 - 86 = 98$ Total : $64 + 86 + 98 = 248$
Q9)	$(18 + 21) \div 3 = 13$ $18 - 13 = 5$ $(\$15.50 \div 5) \times 39 = \$120.90$
Q10)	Cost of distance = $\$26.60 - (\$1 \times 3) - \$3$ $= \$20.60$ $\$20.60 - \$4.10 = \$16.50$ $\$16.50 \div \$0.33 = 50$ Distance travelled = $1\text{ km} + (50 \times 400)$ $= 1000\text{m} + 20000\text{m}$ $= 21000\text{m}$ $= 21\text{km}$
Q11)	a) cost of 3 paperclips = cost of 1 magnet cost of 15 paperclips = cost of 5 magnets cost of 5 magnet = cost of 15 paperclips $15 + 11 = 26$ 26 paperclips = $\frac{2}{6}$ of money $\frac{3}{6}$ of money = $(26 \div 2) \times 3$ = 39 paperclips Cost of 39 paperclips = cost of 13 magnets No. of magnets bought = $13 + 5$ $= 18$

	b) cost of 18 magnets = cost of (18 x 3) paperclips = cost of 54 paperclips No. of paperclips = 54 + 11 = 65 paperclips
Q12)	$< PXY = 180° - (90° + 60°)$ = 30° $< XPY = (180° - 30°) \div 2$ = 75° $< JPY = 75° - 60°$ = 15° $< PYJ = 180° - (15° \, x \, 2)$ = 150°
Q13)	a) 130 – 15 = 115 175 – 115 = 60 b) 75% = $\frac{3}{4}$ 3 units = 60 4 units = 60 ÷ 3 x 4 = 80 130 – 80 = 50
Q14)	a) Multiple of 18 : 18 , 36 , 54 , 72 , 90 Multiple of 15 : 15 , 30 , 45 , 60 , 75 , 90 Ans = $90

b)

Multiple of 7	7 , 14 , 21 , 28 , 35
Multiple of 5	5 , 10 , 15 , 20 , 25 , 30 , 35

Doughnuts = 5 x 7 = 35

= 35 x 8 = 280

Muffin = 7 x 5 = 35

Ans = 280

Q15) a) A = 2 units

B = 2 units + 50

C = 140

D = 260

5units = 50 + 140 + 260

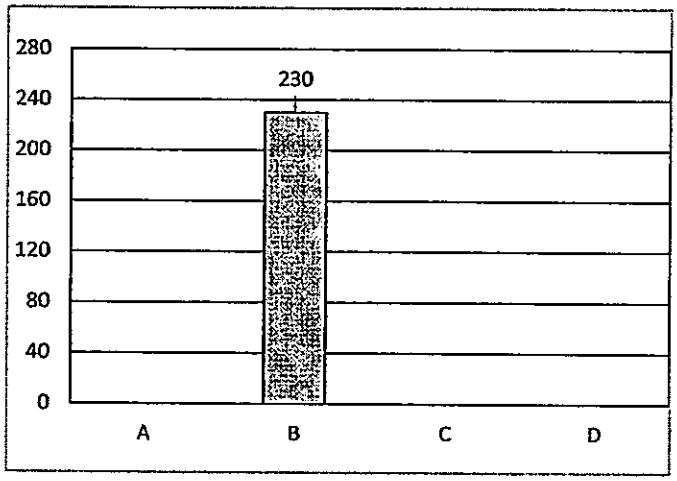
= 450

9 units = 450 ÷ 5 x 9

= 810

b) 450 ÷ 5 x 2 = 180

180 + 50 = 230



Q16)

a) $8 - 2 = 6$

$(138 - 54) \div 6 = 14$ cm

b) $14 \times 2 = 28$

Area of square $= 28\text{cm} \times 28\text{cm}$

$= 784cm^2$

Area of remaining piece $= 784\text{ cm} - \frac{1}{4} \times \frac{22}{7} \times 14\text{cm} \times 14\text{cm}$

$= 784cm^2 - 154cm^2$

$= 630cm^2$

Q17)

a)

17	18	19	20	21	22	23	24	25

b) $6 \times 6 = 36$

$36 - 5 = 31$

c) Row 17 : $17 \times 17 = 289$

d) Row 10 : $1 + 2\ (9) = 19$

Greatest no. in row $10 = 10 \times 10$

$= 100$

First no. in row $10 = (100 - 19) + 1$

$= 82$

END