NANYANG PRIMARY SCHOOL

PRELIMINARY EXAMINATION
2020

PRIMARY 6

MATHEMATICS
PAPER 1
(BOOKLET A)

Total Duration for Booklets A and B: 1 hour

Additional materials: Optical Answer Sheet (OAS)

INSTRUCTIONS TO PUPILS

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer all questions.
4. Shade your answers in the Optical Answer Sheet (OAS) provided.
5. The use of calculators is **NOT** allowed.

Name: _____ (   )

Class: Primary 6 (   )

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) and shade your answer on the Optical Answer Sheet.

(20 marks)

1   Which of the following numbers is 12 000 when rounded to the nearest hundred?

(1)   11 908

(2)   11 950

(3)   12 089
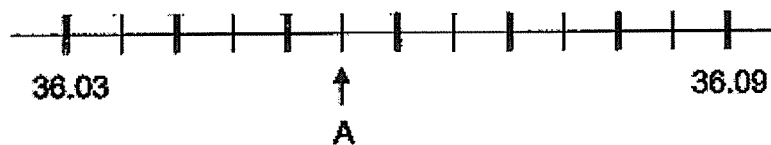
(4)   12 095

2   4 tens and 28 hundredths is _____.
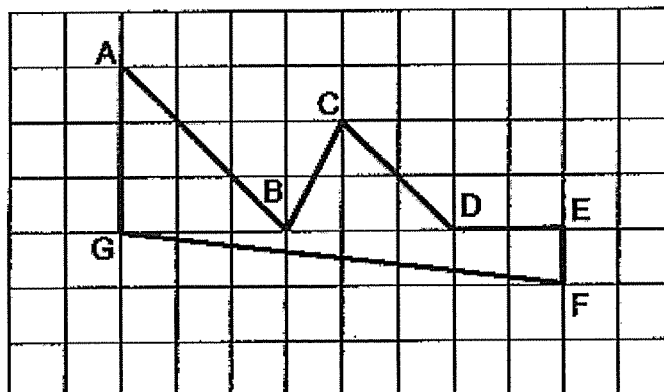
(1)   40.28

(2)   40.028

(3)   4.280

(4)   4.028
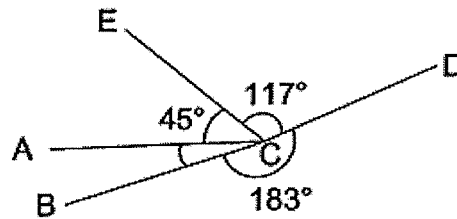
1

3   In the scale below, what is the value of A?

36.03   ↑   36.09
                                   A

(1)   36.035

(2)   36.051

(3)   36.055

(4)   36.550

4   Which pair of lines is parallel?
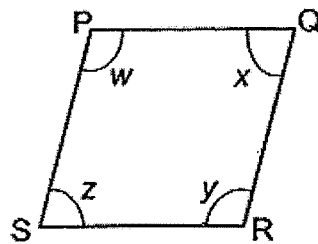

(1)   DE and EF

(2)   AG and BC

(3)   AB and CD

(4)   CD and FG

2

5   In the figure below, $\angle BCD = 183°$, $\angle ECD = 117°$ and $\angle ACE = 45°$
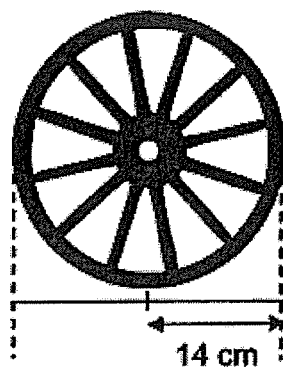Find $\angle BCA$.

(1)   15°

(2)   18°

(3)   35°

(4)   60°

6   In the figure below, PQRS is a rhombus.

Which of the following statements is **false**?

(1) $\angle w = \angle y$

(2)   PQ = PS

(3)   PQ // SR

(4) $\angle x + \angle z = 180°$

7 A wheel of radius 14 cm made 10 complete turns. Find the distance covered. Take $\pi = \dfrac{22}{7}$

14 cm

(1) 440 cm

(2) 880 cm

(3) 1760 cm

(4) 6160 cm

8 Mrs Field sold $(6n + 1)$ coconuts on Monday. She sold n more coconuts on Tuesday than on Monday. How many coconuts did she sell altogether?

(1) $7n + 1$

(2) $11n + 2$

(3) $13n + 1$

(4) $13n + 2$

9   The table below shows how Megan spent her money.
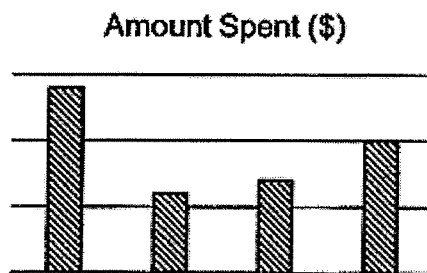
	Magazine	Story Book	Eraser	Pencil Case
Amount spent ($)	6	10	10	14

Which of the following bar graph best represents Megan's spending?

(1)

Amount Spent ($)
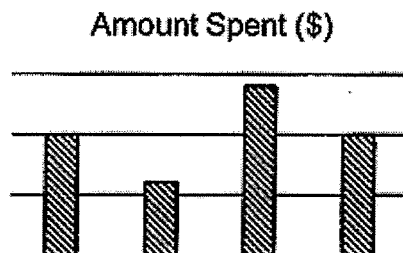
(2)

Amount Spent ($)

(3)

Amount Spent ($)

(4)

Amount Spent ($)
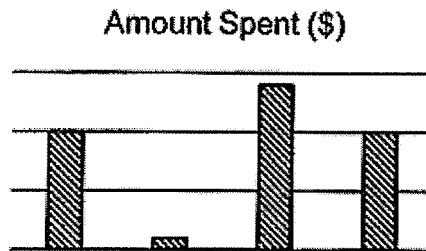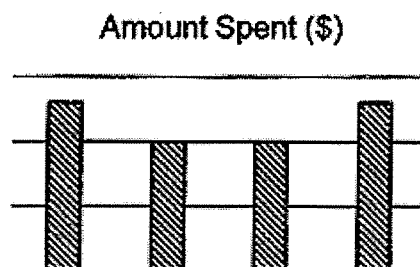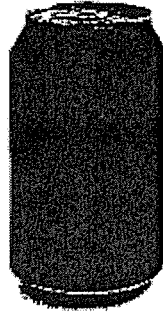
10   Which of the following is likely to be the volume of a can of soft drink?

(1)   3.3 ml

(2)   33 ml

(3)   330 ml

(4)   3300 ml

11   Which of the following fractions is nearest to $\frac{2}{3}$?

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

(2) $\frac{5}{6}$

(3) $\frac{7}{9}$

(4) $\frac{1}{3}$

12   Seven landmarks on a map of a school are shown in the square grid below. The library is north of the pond. Samad is standing at a location south-east of the library and south of the canteen. Which landmark is Samad standing at?
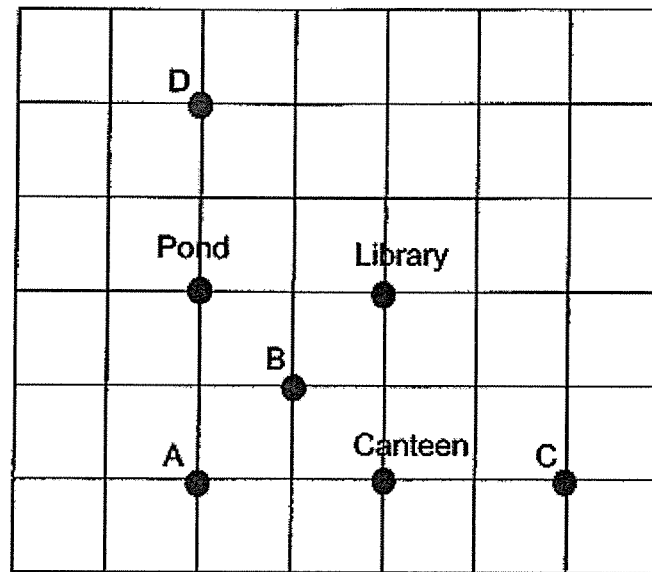
(1)   A

(2)   B

(3)   C

(4)   D

13 Two of Object B are placed into a beaker on a weighing scale as shown in Figure 1. Object A is placed into an identical beaker as shown in Figure 2. Object A and Object B are placed into an identical beaker as shown in Figure 3. Find the mass of the empty beaker.
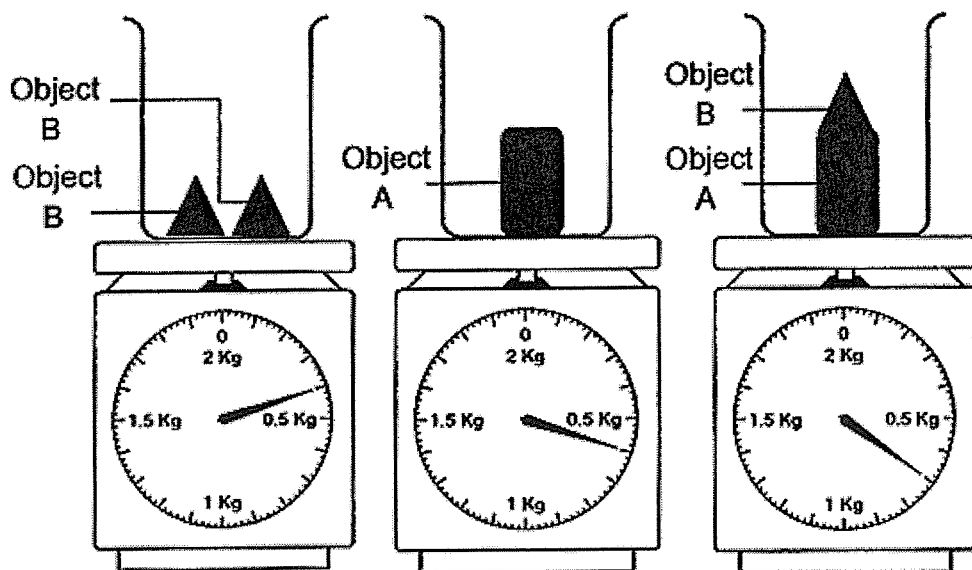

Figure 1   Figure 2   Figure 3

(1) 0.1 kg

(2) 0.2 kg

(3) 0.3 kg

(4) 0.4 kg

14   At a fruit stall, the price of 3 mangoes is the same as the price of 5 grapefruits.   The price of 3 mangoes is also the same as the price of 10 pears.   What is the ratio of the price of a mango to the price of a grapefruit to the price of a pear?

    (1)   3 : 10 : 5

    (2)   3 : 5 : 10

    (3)   10 : 3 : 6

    (4)   10 : 6 : 3

15   A repeated pattern is formed using the numbers 0, 1 and 2.   The first 18 numbers are shown below.

| 2 | 0 | 2 | 1 | 2 | 0 | 2 | 0 | 2 | 1 | 2 | 0 | 2 | 0 | 2 | 1 | 2 | 0 |

1st 2nd 3rd   18th

What is the sum of the first 100 numbers?

    (1)   125

    (2)   117

    (3)   116

    (4)   113

NANYANG PRIMARY SCHOOL

PRELIMINARY EXAMINATION 2020

PRIMARY 6

MATHEMATICS
PAPER 1
(BOOKLET B)

Total Duration for Booklets A and B: 1 hour

INSTRUCTIONS TO PUPILS

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer all questions.
4. Write your answers in this booklet.
5. The use of calculators is **NOT** allowed.

Name: _____ (   )

Class: Primary 6 (   )

Booklet B	24 / 25

Please sign and return the paper the next day. Any queries should be raised at the same time when returning the paper.

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)

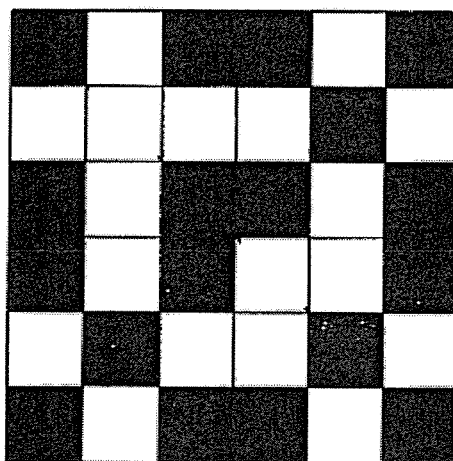**16** Find the value of $\dfrac{5}{6} \times 24$

Ans: _____

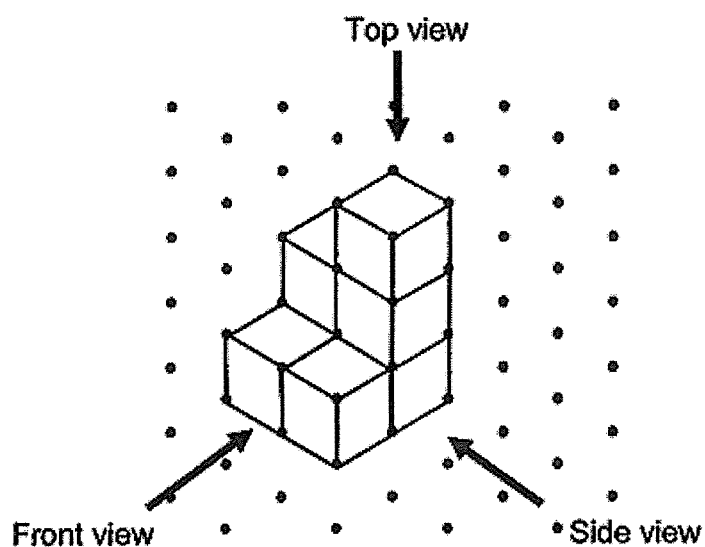---

17 Express 735 ml in litres.

Ans: _____ _____ ℓ

---

18 There is 1 line of symmetry for the figure below. Draw in the line of symmetry.

---

19 Yong Yi stacked 7 unit cubes and glued them together to form the solid below.
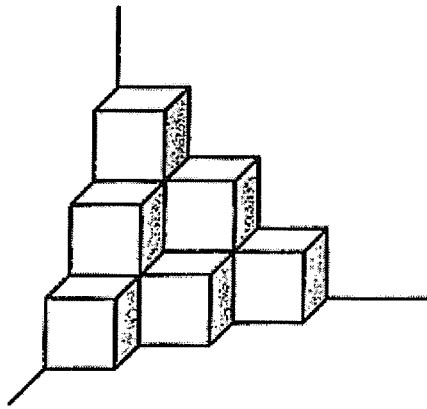
Top view

Front view   **Side view**

Draw the side view of the solid on the grid below.

Side view
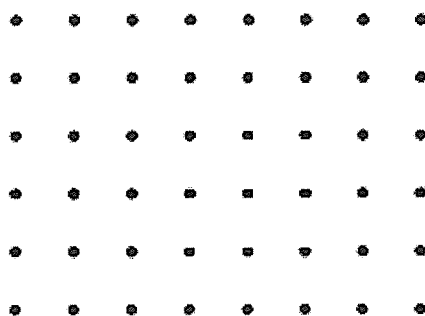
20 The solid below is made up of 1-cm cubes.   What is the volume of the solid?

Ans: _____ cm³

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

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

Ans: _____

22   Mdm Hafiz bought a table for $151.25 and a chair for $24.15.

(a)   How much did she spend altogether?

(b)   Find the cost of 20 such tables.

Ans: (a) $_____

      (b) $_____

23   Michelle started reading her book at 8.56 a.m. She stopped reading her book at 10.05 a.m. on the same day. How long did Michelle spend reading her book?

Ans: _____ h _____ min

4

24   Mrs Tay baked 120 cookies on Monday and 150 cookies on Tuesday. What was the percentage increase in the number of cookies baked on Tuesday compared to Monday?

Ans: _____ %

25   Nayla divided some beads equally into 2 groups. She packed the first group of beads equally into 4 boxes and the second group of beads equally into 6 packets. 2 such boxes and 5 such packets contained a total of 6016 beads. How many beads were there in one such packet?

Ans: _____

26   Calissa had a piece of cloth. She used $\frac{1}{5}$ m of it to sew a handkerchief and $\frac{3}{5}$ m of it to sew a pouch. She then had $\frac{1}{4}$ m of the cloth left. What was the length of the piece of cloth Calissa had at first?
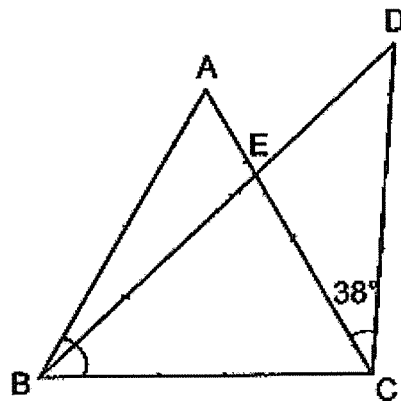
Ans: _____ m

5

27   Kyan had 5 kg of salt. He packed the salt into bags. Each bag

contained $\dfrac{3}{8}$ kg of salt. What was the greatest number of such bags
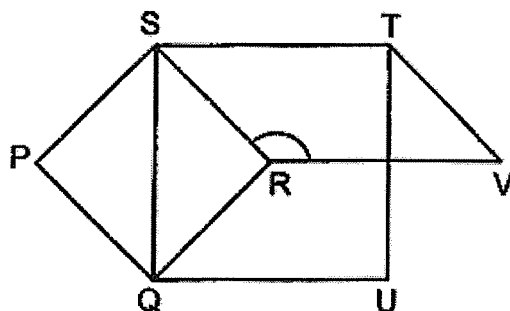
of salt Kyan could have packed?

Ans: _____

28   In the figure, ABC is an equilateral triangle.   AB = CD and $\angle ACD = 38°$
BED and AEC are straight lines.   Find $\angle AEB$.

Ans: _____ °

29	In the figure, PQRS and STUQ are two squares. STVR is a parallelogram. Find ∠SRV.

Ans: _____ °

30	The table shows the number of toys produced by a factory from Monday to Sunday.

Day	Number of toys produced
Monday to Friday	$2y$ per day
Saturday	$4y - 3$
Sunday	$6y + 8$

Find the total number of toys produced in a week given that $y = 5$.

Ans: _____

End of Paper

7

NANYANG PRIMARY SCHOOL

PRELIMINARY EXAMINATION
2020

PRIMARY 6

MATHEMATICS
PAPER 2

Duration: 1 hour 30 minutes

INSTRUCTIONS TO PUPILS

1. Do not turn over this page until you are told to do so.
2. Follow all instructions carefully.
3. Answer all questions.
4. Write your answers in this booklet.
5. The use of an approved calculator is expected, where appropriate.

Name: _____ ( )

Class: Primary 6 ( )

Parent's Signature: _____

Booklet A	**/ 20**
Booklet B	**/ 25**
Paper 2	**/ 55**
Total	**/ 100**

Please sign and return the paper the next day. Any queries should be raised at the same time when returning the paper.

Questions 1 to 5 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. (10 marks)

1   Carel had $(5k + 13)$ shells at first. She added k more shells and the total number of shells she had became 151. How many shells did Carel add?

Ans: _____

2   Every minute, Machine A prints 3 pages. Every hour, Machine A and Machine B print a total of 450 pages. How many pages does Machine B print per hour?

Ans: _____

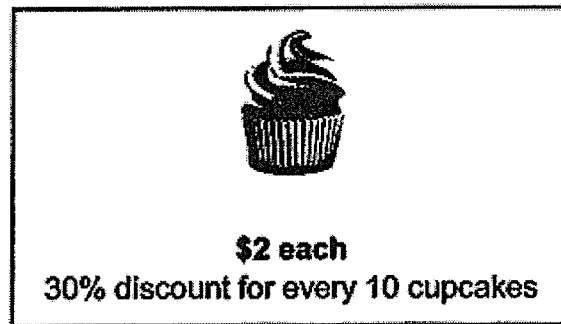3   The average of four different 2-digit odd numbers is 27. Two of the numbers are 15 and 29. What could the other two numbers be?

Ans: _____, _____

1

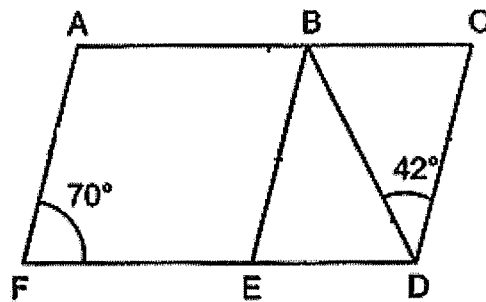4   Diana was given $30 to buy some cupcakes from a bakery.

$2 each
30% discount for every 10 cupcakes

What was the greatest number of cupcakes Diana could buy with all her money?

Ans: _____

5   ACDF and BCDE are parallelograms. ∠AFE = 70° and ∠CDB = 42°. Find ∠BDE.


A   B   C

70°

42°

F   E   D

Ans: _____ °

2

For questions **6** to **17**, show your working clearly 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   In the square grid below, JK and KL are straight lines.

(a)   Measure and write down the size of ∠JKL.

(b)   JK and KL form two sides of a trapezium JKLM.   JM is parallel to KL.   KL is twice the length of JM.   Complete the drawing of trapezium JKLM.

(c)   KL forms one side of a parallelogram KLNP.   The length of JP is twice the length of KP and JKP forms a straight line.   Complete the drawing of parallelogram KLNP such that it does not overlap with the trapezium.

[2]

Ans: (a) _____ [1]

3
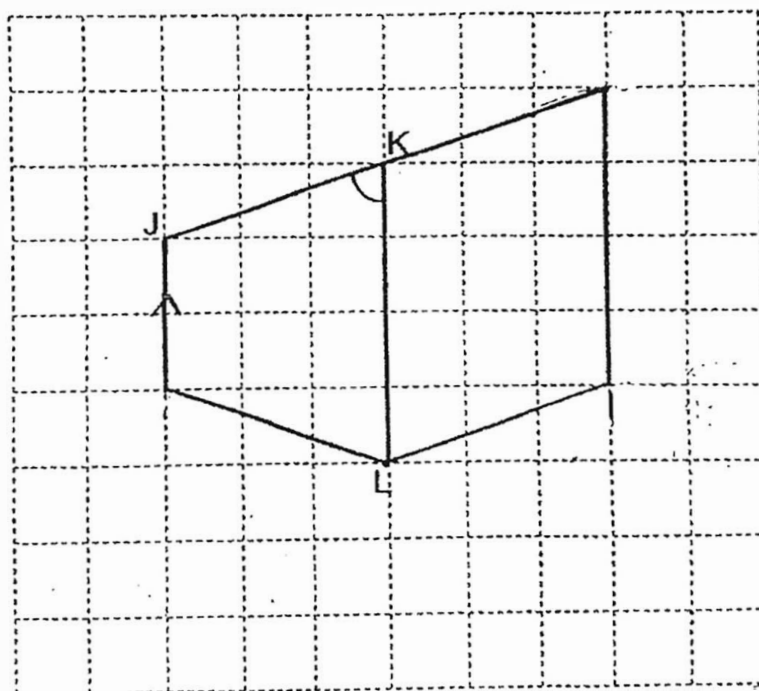
7   Heidi bought 4 staplers and 6 files.   Each stapler cost $1.20 more than each file.   The total cost of the files was $6.40 more than the total cost of the staplers.   Find the cost of one stapler.

Ans: _____ [3]

8   Maggie baked some pies and muffins.   The number of pies was $\frac{7}{11}$ of the number of muffins.   Maggie gave away 6 pies and 14 muffins.   In the end, the number of pies left was equal to the number of muffins left.   How many pies and muffins did Maggie bake altogether?

Ans: _____ [3]

9   Three children received their scores for a Mathematics test.   The average scores of any two of the three children are listed below.
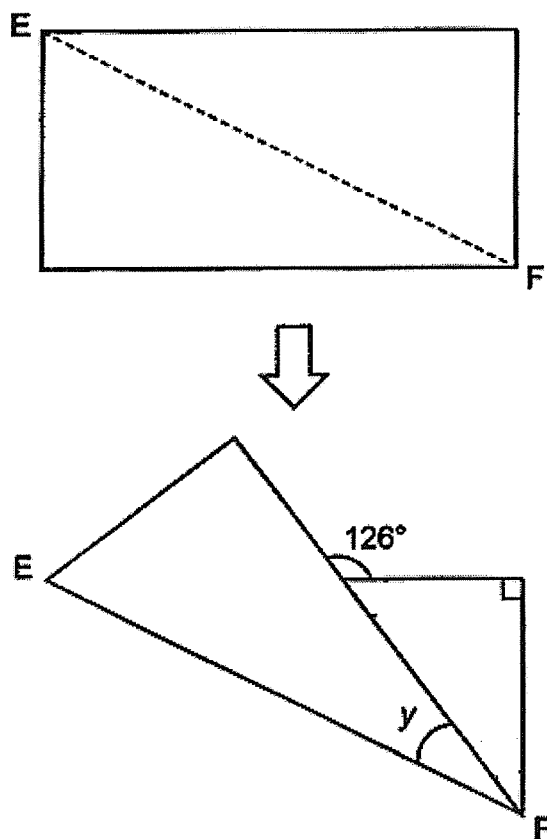
Average Scores
83
86
94

What was the highest score among the three children?

Ans: _____ [3]

10 Susie had a rectangular piece of paper.   She folded the piece of paper along the line EF.   Find ∠y.

126°

y

E

F

Ans: _____ [3]

11   A rectangular tank measuring 60 cm long and 20 cm wide was $\frac{4}{5}$ - filled with water at first.   After Matthias poured some water from the tank into some identical jugs, the height of the water level decreased by 18 cm. Each jug can hold at most 2.25 ℓ of water.

60 cm

20 cm
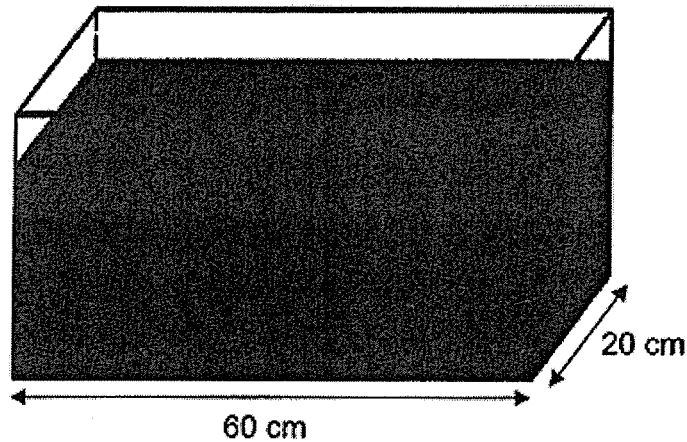
(a)   What was the least number of such jugs used?

Ans: (a)   _____ [3]

(b)   Each of the statements below is either true, false or not possible to tell from the information given.
For each statement, put a tick (√) to indicate your answer.

Statement	True	False	Not possible to tell
20% of the tank was not filled with water at first.			
The height of the tank is 22 cm.			

[1]

12　Edwina and Georgia had the same number of bottles. Edwina and Georgia each had a mix of big bottles and small bottles. Edwina had 5 small bottles while Georgia had 16 big bottles. Each small bottle had a capacity of 400 ml. Each big bottle had a capacity of 0.6 ℓ. The total capacity of Edwina's bottles was 0.8 ℓ more than the total capacity of Georgia's bottles.

(a)　How many big bottles did Edwina have?

(b)　What was the total capacity of Edwina's bottles?

Ans: (a) _____ [3]

(b) _____ [1]

13   The table below shows the number of pupils who wear glasses in Primary 3A and the number of girls who wear glasses in Primary 3B. The number of boys who wear glasses in Primary 3B is not shown. The total number of pupils in each class is fewer than 40.

Class	Gender	Number of pupils who wear glasses
3A	Boys	12
	Girls	11
3B	Boys	?
	Girls	10

(a)   The total number of pupils in Primary 3A can be divided equally into 4 groups with no pupils leftover. The total number of pupils in Primary 3A can also be divided equally into 6 groups with no pupils leftover. There are 2 girls in Primary 3A who do not wear glasses. How many boys in Primary 3A do not wear glasses?

(b)   The total number of boys in Primary 3B is $\frac{5}{8}$ of the total number of pupils in Primary 3B. How many girls in Primary 3B do not wear glasses?
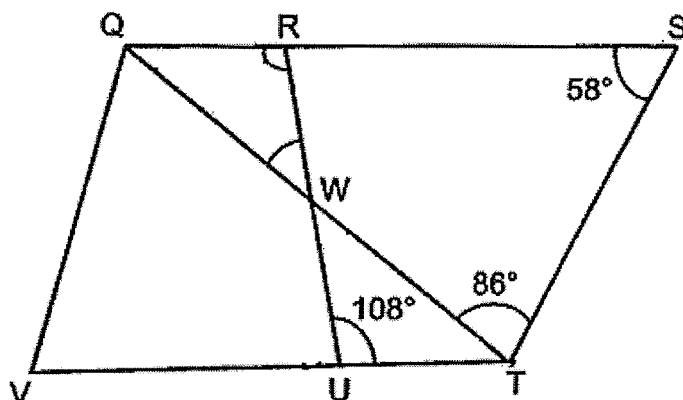
Ans: (a)   _____   [2]

(b)   _____   [2]

9

14   There were three types of fruit in a box. The ratio of the number of mangoes to the total number of apples and oranges was 2 : 5. The ratio of the number of apples to the number of oranges was 9 : 1. There were 30 more apples than mangoes. After some mangoes were added into the box, 70% of the fruits in the box were mangoes.

(a)   How many mangoes were there in the end?

(b)   How many mangoes were added in the box?

Ans: (a) _____ [3]

(b) _____ [1]

15 QRUV and RSTU are trapeziums. QRS, VUT and QWT are straight lines. QS is parallel to VT. ∠QST = 58°, ∠STQ = 86° and ∠RUT = 108°.

(a) Find ∠RWQ.

<div style="text-align:right">Ans: (a) _____ [2]</div>

(b) In the following statement, circle the words that describe QRW correctly and fill in the blanks accordingly:

QRW (is / is not) an isosceles triangle because

∠ RQW (is / is not) equal to ∠RWQ

Show your working clearly to explain your answer. [2]

16 The bar graph below shows the types of coin that Max had in his piggy bank.   The number of 50¢ coins he had was not shown in the graph.

Number of Coins

20¢   50¢ $1
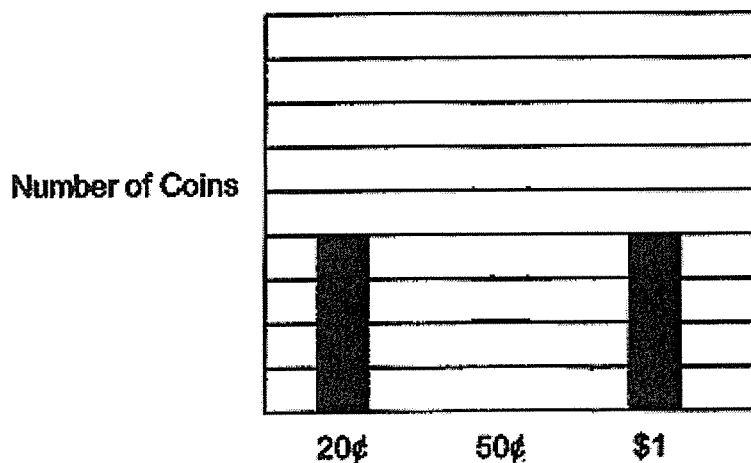
[3]

He had $44 altogether.   The total amount of $1 coins that he had was $16 more than the total amount of 20¢ coins that he had.

(a) How many 20¢ coins did he have?

(b) Draw the bar for the number of 50¢ coins that Max had in the graph above.

Ans: (a) _____ [2]

17   The figure is made up of 5 identical circles.   AEBGF are centres of the circles.   The area of rectangle ABCD is 400 cm².
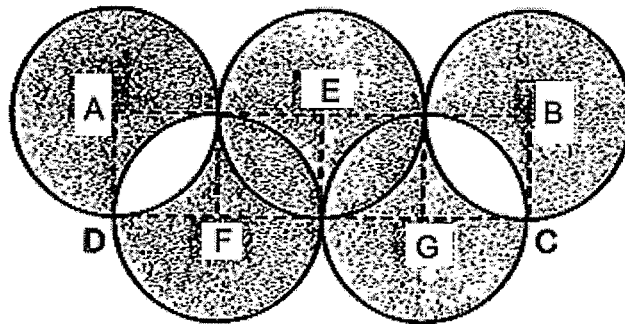
(a)   Find the radius of the circle.

(b)   Find the area of the shaded parts.
      Take π = 3.14

Ans: (a) _____ [1]

      (b) _____ [4]

End of Paper
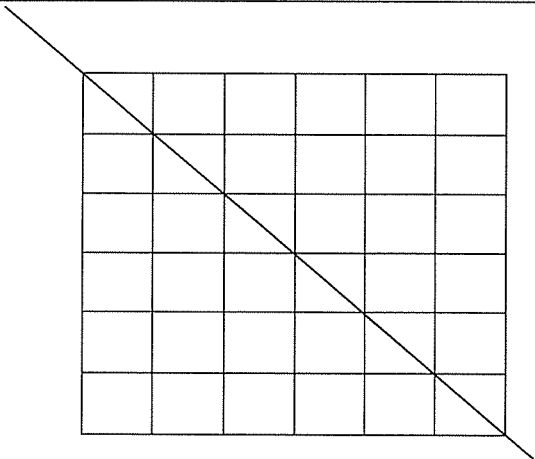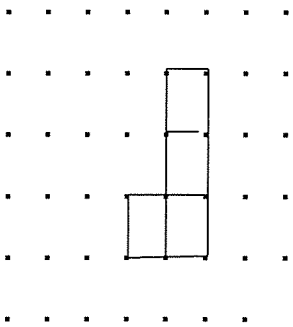
13

SCHOOL   :   NANYANG PRIMARY SCHOOL
LEVEL   :   PRIMARY 6
SUBJECT   :   MATH
TERM   :   2020 PRELIM

PAPER 1 BOOKLET A

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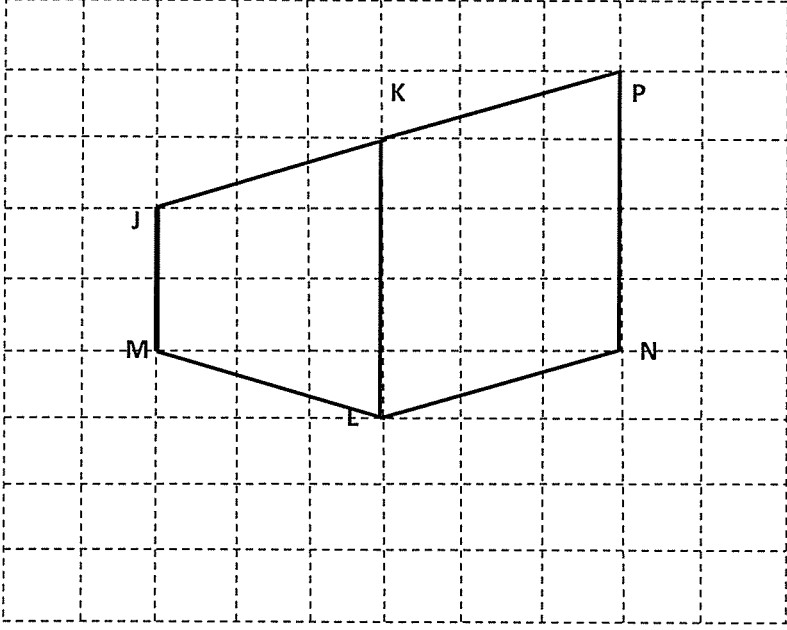
Q 11	Q12	Q13	Q14	Q15
1	1	2	4	2

PAPER 1 BOOKLET B

Q16)	20
Q17)	0.735ℓ
Q18)	
Q19)	

Q20)	6 + 3 + 1= 10 cm3
Q21)	<u>12</u> <u>18</u> 1x12 1x18 2x6 2x9 3x4 3x6 ANS: 1,2,3,6
Q22)	a)\$151.25 + \$24.15 = \$175.40 b)\$151.25 x 20 = \$3025
Q23)	9 min 1h 8.56a.m. 9.05a.m. 10.05a.m. ANS: 1 h 9 min
Q24)	150 – 120 = 30 $\frac{30}{120}$ x 100% = 25%
Q25)	4B→6p 2B+5p = 6016 4B+10p→12032 6p+10p→12032 16p→12032 p→12032 ÷ 16 = 752
Q26)	$\frac{1}{5} + \frac{3}{5} + \frac{1}{4} = \frac{4}{12} + \frac{12}{20} + \frac{5}{20} = \frac{21}{20}$ m
Q27)	$5 \div \frac{3}{8} = 5 \times \frac{8}{3} = \frac{40}{3} = 13\frac{1}{3} \approx 13$
Q28)	180° ÷ 3 = 60° (180° – 38° – 60°) ÷ 2 = 41° 180° – 60° – 41° = 79° 180° – 79° = 101°
Q29)	90° ÷ 2 = 45° 180° – 45° = 135°
Q30)	Total→(2yx5) + 4y – 3 + 6y + 8 = 100 + 5 = 105

PAPER 2

Q1)	5k + 13 + k = 6k + 13 6k→151 − 13 = 138 k→138 ÷ 6 = 23
Q2)	1h = 60min 3 x 60 = 180 450 − 180 = 270
Q3)	27 x 4 = 108 (37+27+15+29) ÷ 4 = 27 108 − 15 − 29 = 64 37 + 27 = 64 ANS: 37 , 27
Q4)	1 set→($2 x 10) x (100% - 30%) = $14 No.of sets→$30 ÷ $14 = 2 R $2→1 cupcake 2 x 10 + 1 = 21
Q5)	180° − 70° − 42° = 68°
Q6)	a)71°

Q7)	1S→1F + $1.20 4S→4F + $4.80 6F→4F + $4.80 + $6.40 2F→$4.80 + $6.40 = $11.20 1F→$11.20 ÷ 2 = $5.60 1S→$5.60 + $1.20 = $6.80	
Q8)	11u − 7u = 4u 4u→14 − 6 = 8 u→8 ÷ 4 = 2 7u + 11u = 18u 18u→2 x 18 = 36	
Q9)	83 x 2 = 166 86 x 2 = 172 94 x 2 = 188 166 + 172 + 188 = 526 526 ÷ 2 = 263 (total) Highest : 95 / 96 / 97 263 − 97 = 166 188 − 97 = 91 166 − 91 = 75	(75 + 91) ÷ 2 = 83 (97 + 75) ÷ 2 = 86 ANS: 97
Q10)	180° − 126° = 54° 180° − 90° − 54° = 36° (90° − 36°) ÷ 2 = 27°	
Q11)	a)60 x 20 x 18 = 21600 21600cm3 = 21.6 ℓ 21.6 ℓ ÷ 2.25 ℓ ≈ 10 b)True False	
Q12)	a)20 b)14000ml	
Q13)	a)11 + 12 + 2 = 25 36 − 25 = 11 b)2	

Q14)	a)M : A
	   2 : 5
	X2 x2
	   4 : 10
	
	A = 0
	9 = 1
	
	5u→30
	1u→30÷5 = 5 = 6
	4u→6 x 4 = 24 (m)
	10u→6 x 10 = (A +0)
	30% →60
	1% →$\frac{60}{30}$ = 2
	70% →2 x 70 = 140
	
	b)140 − 24 = 116
		A : 0 : total
		9 : 1 : 10

Q15)	a)36 ° b)is / is

Q16)	a)$1 - $0.20 = $0.80
	   $16 ÷ $0.80 = 20
	b)20 x $0.20 = $4
	   20 x $1 = $20
	   $44 - $20 - $4 = $20 (50¢)
	   $20 ÷ 0.50 = 40

Q17)	a)400 ÷ 4 = 100
	   $\sqrt{100}$ = 10cm
	
	b) ¼ x 3.14 x 25 = 78.5
	   78.5 − 50 = 28.5 (half leaf)
	   28.5 x 2 = 57 (1 leaf)
	   2 ◖ + 3 ◗ →12◗
	   78.5 x 12 = 942
	   942 + 285 = 1228cm2