

NANYANG PRIMARY SCHOOL

**TERM 1 WEIGHTED ASSESSMENT
2022**

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 The number of cars is $\frac{14}{24}$ of the number of motorcycles in a carpark. What is the ratio of the number of motorcycles to the number of cars in the carpark? Give your answer in the simplest form.

(1) 7 : 12

(2) 12 : 7

(3) 14 : 24

(4) 24 : 14

2 What is the value of $29\,400 \div 700$?

(1) 32

(2) 42

(3) 320

(4) 420

3 What is the value of $\frac{11}{12} + \frac{3}{4} - \frac{1}{4}$?

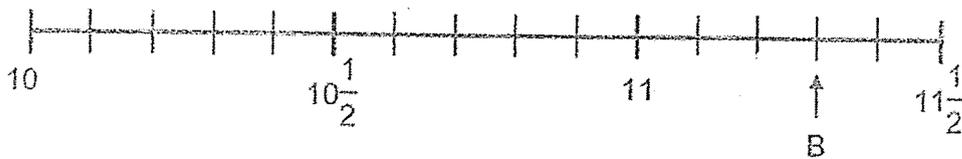
(1) $\frac{7}{12}$

(2) $\frac{9}{12}$

(3) $\frac{15}{12}$

(4) $\frac{17}{12}$

4 In the number line below, what is the mixed number represented by B?



(1) $11\frac{3}{4}$

(2) $11\frac{3}{5}$

(3) $11\frac{3}{8}$

(4) $11\frac{3}{10}$

5 What is the value of $\frac{1}{4} \times \frac{12}{5}$?

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

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

(3) $\frac{5}{16}$

(4) $\frac{5}{48}$

6 $\frac{6}{7}$ of a cake is cut equally into 12 slices. What fraction of the whole cake is each slice?

(1) $\frac{1}{14}$

(2) $\frac{1}{42}$

(3) $\frac{18}{7}$

(4) $\frac{72}{7}$

7 Which of the following is the same as 10 007 g ?

- (1) 1.07 kg
- (2) 10.07 kg
- (3) 10.007 kg
- (4) 100.07 kg

8 What is the value of $2.5 \div 500$?

- (1) 5
- (2) 0.5
- (3) 0.05
- (4) 0.005

9 There are 200 children in a camp. 130 of them are girls. What percentage of the children are boys?

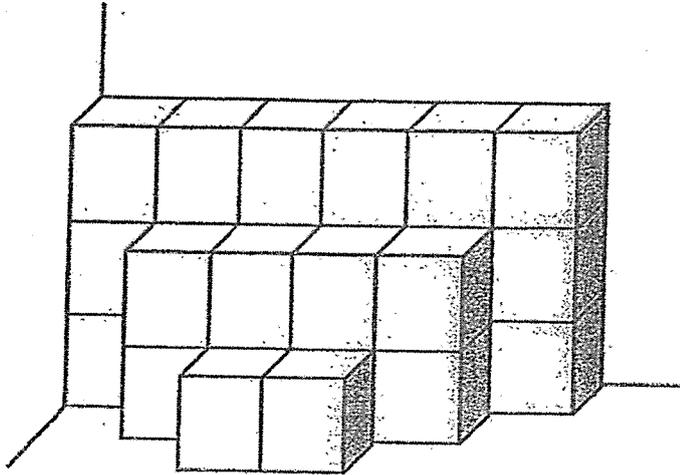
- (1) 30%
- (2) 35%
- (3) 65%
- (4) 70%

- 10 Which of the following is likely to be the mass of a Nanyang Primary School student handbook?



- (1) 20 kg
(2) 2 g
(3) 2000 g
(4) 200 g
- 11 The ratio of the number of red pins to the number of yellow pins to the number of green pins is 4 : 5 : 3. The total number of yellow pins and green pins is 120. How many red pins are there?
- (1) 30
(2) 60
(3) 96
(4) 160

12 The solid below is built using 1-cm cubes. Find the volume of the solid.

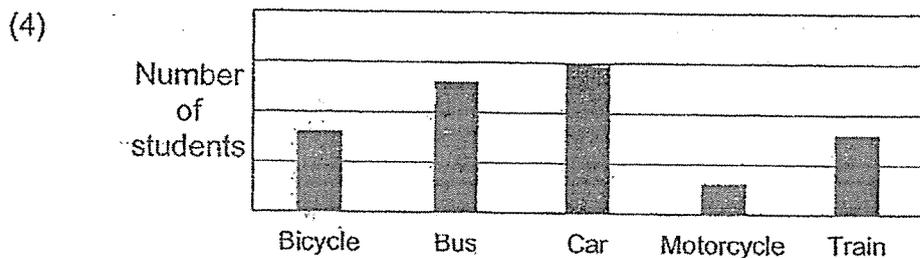
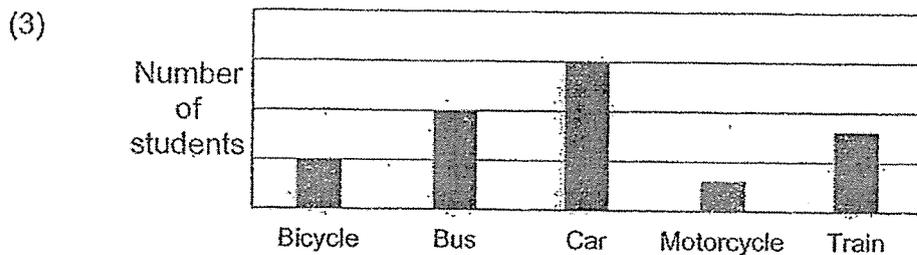
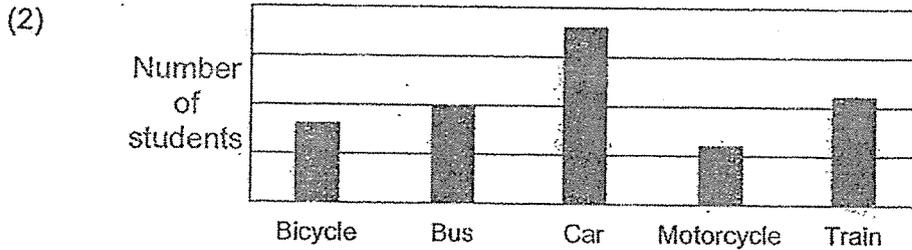
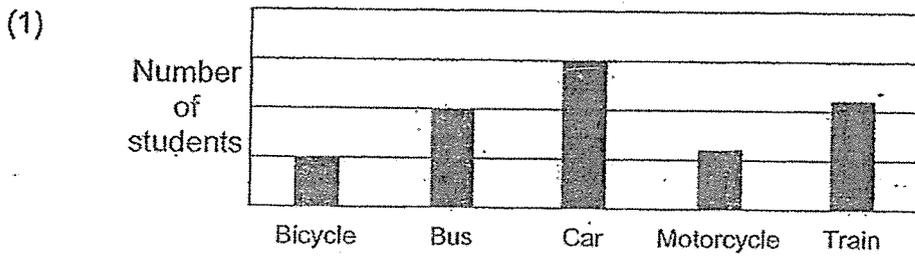


- (1) 28 cm^3
- (2) 26 cm^3
- (3) 20 cm^3
- (4) 18 cm^3

- 13 The table below shows the modes of transport used by students in Class 6E to go to school.

| Mode of Transport | Bicycle | Bus | Car | Motorcycle | Train |
|--------------------|---------|-----|-----|------------|-------|
| Number of students | 5 | 10 | 15 | 3 | 8 |

Which of the following bar graphs represents the information shown in the table above?



14 Mdm Nor used $\frac{1}{3}$ of her money to buy 4 oranges and 8 apples. The cost of 2 oranges was the same as that of 3 apples. What was the greatest number of apples that Mdm Nor could buy with half of the money she had at first?

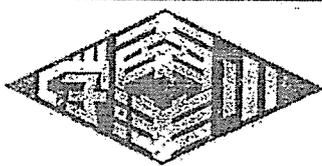
- (1) 9
- (2) 14
- (3) 21
- (4) 42

15 A table with 4 columns is filled with numbers in a certain pattern. The first 6 rows of the table are shown below.

| | Column A | Column B | Column C | Column D |
|-------|----------|----------|----------|----------|
| Row 1 | 6 | 5 | 4 | 3 |
| Row 2 | 7 | 8 | 9 | 10 |
| Row 3 | 14 | 13 | 12 | 11 |
| Row 4 | 15 | 16 | 17 | 18 |
| Row 5 | 22 | 21 | 20 | 19 |
| Row 6 | 23 | 24 | 25 | 26 |
| ⋮ | ⋮ | ⋮ | ⋮ | ⋮ |

In which column will the number 343 appear?

- (1) Column A
- (2) Column B
- (3) Column C
- (4) Column D



NANYANG PRIMARY SCHOOL

**TERM 1 WEIGHTED ASSESSMENT
2022**

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

/ 25

Please sign and return the examination paper the next day. Any queries should be raised at the same time when returning 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 $100 \div (25 - 15) + 8 \times 7$.

Ans: _____

17 Find the value of $10 \div \frac{3}{8}$. Give your answer as a mixed number in the simplest form.

Ans: _____

18 Jennie used 350 g of flour to bake 7 buns. How many such buns could she bake with 250 g of flour?

Ans: _____

- 19 Jonas has \$10. He spends 95¢ on a sandwich and 80¢ on a drink.
How much money does Jonas have left?

Ans: \$ _____

- 20 Alice and Betty donated a sum of money to charity. 40% of the sum of money was donated by Alice. Betty donated \$480. Find the total sum of money donated by Alice and Betty.

Ans: \$ _____

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 Mrs Ong had some potted plants at first. After she sold 240 potted plants, she was left with 20% of the potted plants she had at first. How many potted plants did she have at first?

Ans: _____

- 22 Mr Menon had $\frac{5}{6}$ kg of sugar. He packed all the sugar into packets of $\frac{5}{18}$ kg each. How many such packets of sugar did he pack?

Ans: _____

- 23 Ismail has 350 buttons. $\frac{2}{5}$ of the buttons are red and the rest are blue. How many blue buttons does he have?

Ans: _____

- 24 Four times of Ali's mass is equal to $\frac{2}{3}$ of Bala's mass. What is the ratio of Ali's mass to their total mass?

Ans: _____

- 25 Chang had 90 stickers. The ratio of the number of stickers Chang had to the number of stickers Dali had was 9 : 5. How many stickers must Chang give to Dali so that both of them would have the same number of stickers?

Ans: _____

- 26 The ratio of the number of apples to the number of oranges Jisoo had was 7 : 3 at first. After she bought 33 apples and 33 oranges, the ratio of the number of apples to the number of oranges became 5 : 3. Find the total number of apples and oranges she had at first.

Ans: _____

- 27 Rosnie had \$16 at first. After John gave \$8 to Rosnie, he had thrice as much money as Rosnie. How much money did John have in the end?

Ans: \$ _____

- 28 How many 4-digit numbers are there such that each number gives 3000 when rounded to the nearest thousand? The digits 2, 3, 5 and 0 appear once in each number.



Ans: _____

- 29 Lisa paid \$40.50 for a chocolate cake and 6 fruit tarts. Samuel paid \$25.50 for one such chocolate cake and 2 such fruit tarts. How much did one such chocolate cake cost?

Ans: \$ _____

- 30 Shop A and Shop B sell pens of four colours. The table below shows the number of pens sold by each shop in January. The number of blue pens sold by Shop A is not shown.

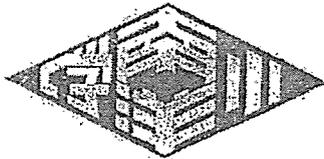
| Colour | Number of pens sold by Shop A | Number of pens sold by Shop B |
|--------|-------------------------------|-------------------------------|
| Red | 140 | 120 |
| Blue | ? | 335 |
| Black | 210 | 245 |
| Purple | 80 | 100 |

In January, 50% of the pens sold by Shop A were blue pens.

Each of the statements 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 |
|-------------------------------------------------------------------------------------------------------------------|------|-------|----------------------|
| Shop A sold more blue pens than Shop B in January. | | | |
| The number of black pens sold by Shop B in January was twice the number of black pens sold by Shop B in February. | | | |
| In January, 15% of the pens sold by Shop B were red pens. | | | |

End of Paper



NANYANG PRIMARY SCHOOL

**TERM 1 WEIGHTED ASSESSMENT
2022**

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 allowed.

Name: _____ ()

Class: Primary 6 ()

Parent's Signature: _____

| | |
|-----------|-------|
| Booklet A | / 20 |
| Booklet B | / 25 |
| Paper 2 | / 55 |
| Total | / 100 |

Please sign and return the examination paper the next day. Any queries should be raised at the same time when returning 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 Ji Eun had $6\frac{3}{4}$ m of cloth at first. She used $3\frac{7}{10}$ m of the cloth to make some shirts. She then bought $4\frac{2}{5}$ m of cloth. How many metres of cloth did she have in the end?

Ans: _____ m

- 2 The area of a rectangle is $1\frac{11}{25}$ m². What is the total area of 4 such rectangles?

Ans: _____ m²

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 Ji Eun had $6\frac{3}{4}$ m of cloth at first. She used $3\frac{7}{10}$ m of the cloth to make some shirts. She then bought $4\frac{2}{5}$ m of cloth. How many metres of cloth did she have in the end?

Ans: _____ m

- 2 The area of a rectangle is $1\frac{11}{25}$ m². What is the total area of 4 such rectangles?

Ans: _____ m²

- 3 The price of a pair of sneakers is \$190 before GST. What is the price of the sneakers after adding 7% GST?

Ans: \$ _____

- 4 The average cost of a calculator and a storybook is \$36. The storybook costs $\frac{1}{3}$ as much as the calculator. What is the cost of the calculator?

Ans: \$ _____

- 5 At 9 a.m., a tap was turned on to fill an empty tank at a rate of 6 l per minute. At 9.05 a.m., another tap was turned on to fill the same tank at a rate of 3 l per minute. At what time were there 75 l of water in the tank?

Ans: _____

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 48% of a number is 312.

(a) What is the number?

(b) What is 66% of the number?

Ans: (a) _____ [2]

(b) _____ [1]

7 The prices of masks sold in a pharmacy are shown in the table below.

| | |
|----------------------------------|-----------------|
| First 50 masks | \$8.00 |
| Next 50 masks | \$0.15 per mask |
| Additional masks above 100 masks | \$0.10 per mask |

Rose wants to buy 135 masks. What is the least amount of money she has to pay?

Ans: _____ [3]

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 48% of a number is 312.
- (a) What is the number?
- (b) What is 66% of the number?

Ans: (a) _____ [2]

(b) _____ [1]

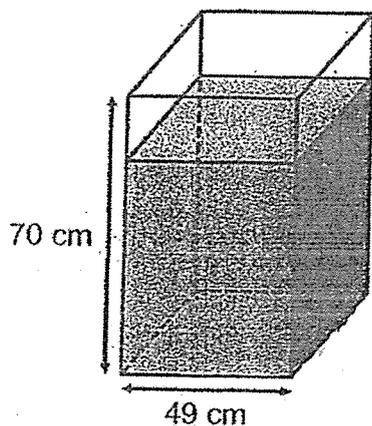
- 7 The prices of masks sold in a pharmacy are shown in the table below.

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| First 50 masks | \$8.00 |
| Next 50 masks | \$0.15 per mask |
| Additional masks above 100 masks | \$0.10 per mask |

Rose wants to buy 135 masks. What is the least amount of money she has to pay?

Ans: _____ [3]

- 8 A rectangular tank with a square base is $\frac{5}{7}$ -filled with water as shown below. Find the volume of water in the tank. Give your answer in litres and millilitres.



Ans: _____ [3]

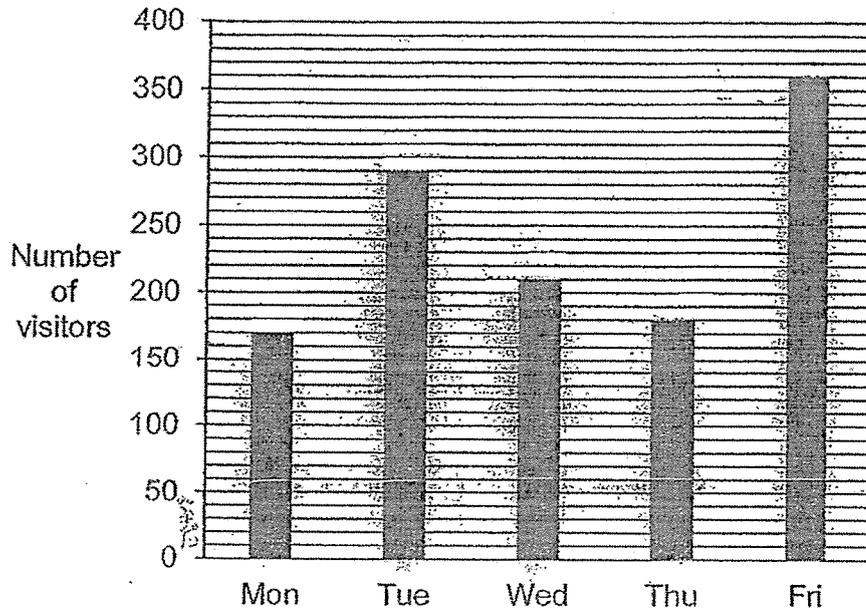
- 9 Mr Tan had 8 kg of peanuts in a sack at first. He packed the peanuts into bags. Each bag contained $\frac{3}{8}$ kg of peanuts.

- (a) What was the greatest number of bags he could fill with $\frac{3}{8}$ kg of peanuts each?
- (b) Find the mass of the peanuts left unpacked in the sack.

Ans: (a) _____ [1]

(b) _____ [2]

- 10 The bar graph below shows the number of visitors to a park from Monday to Friday last week.

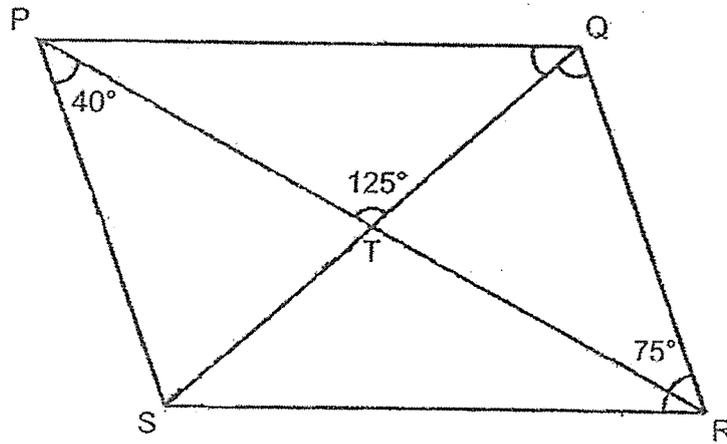


- (a) What was the average number of visitors from Monday to Friday last week?
- (b) The average number of visitors on Saturday and Sunday was twice the average number of visitors from Monday to Friday last week. Write down one possible set of values for the number of visitors on Saturday and Sunday.

Ans: (a) _____ [1]

(b) _____ [2]

- 11 PQRS is a parallelogram. PTR and STQ are straight lines.
 $\angle SPT = 40^\circ$, $\angle PTQ = 125^\circ$ and $\angle SRQ = 75^\circ$.



- (a) Find $\angle PQT$.
(b) Find $\angle TQR$.

Ans: (a) _____ [2]

(b) _____ [2]

12 At first, Tze Peng baked a total of 120 chocolate cupcakes and vanilla cupcakes. The ratio of the number of chocolate cupcakes to the number of vanilla cupcakes was 1 : 3 at first. He then bought some chocolate cupcakes. After that, 60% of the total cupcakes were chocolate cupcakes.

(a) What was the ratio of the number of vanilla cupcakes to the number of chocolate cupcakes in the end?

(b) How many chocolate cupcakes did Tze Peng buy?

Ans: (a) _____ [1]

(b) _____ [3]

- 13 In a library, 45% of the books are English books, $\frac{3}{5}$ of the remaining books are Chinese books and the rest are Malay books. The difference between the number of Chinese books and Malay books is 176. How many English books are there in the library?

Ans: _____ [4]

- 14 The original price of a washing machine was \$1380. Iskandar bought it at a 30% discount during a sale.
- (a) How much did Iskandar pay for the washing machine?
- (b) He paid \$76.80 for a hair dryer. The total discount for the washing machine and the hair dryer was \$465.20. Express the discount for the hair dryer as a percentage of its original price.

Ans: (a) _____ [1]

(b) _____ [3]

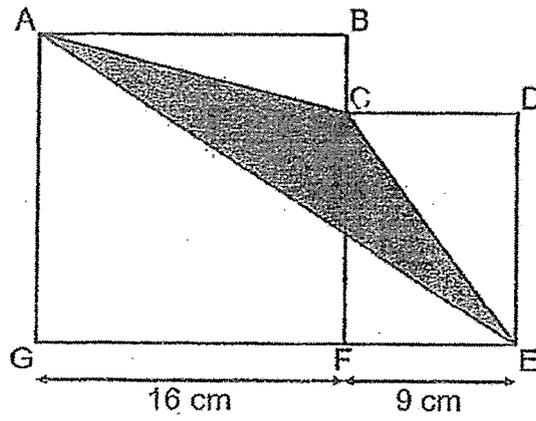
15 Mrs Lim had some money at first. She spent $\frac{1}{3}$ of it on a blouse and $\frac{1}{6}$ of the remaining money on a skirt. After her husband gave her \$484, she then had the same amount of money as she had at first.

- (a) How much money did she spend on the skirt?
- (b) How much money did she have at first?

Ans: (a) _____ [2]

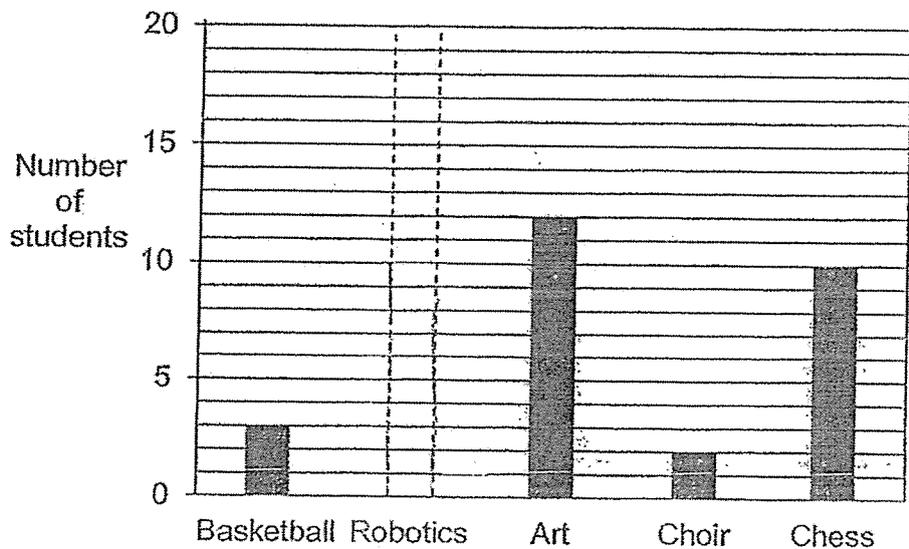
(b) _____ [2]

- 16 In the figure below, $ABFG$ is a square and $CDEF$ is a rectangle. BCF and GFE are straight lines. CF is thrice as long as BC . Find the area of triangle ACE .



Ans: _____ [5]

- 17 The bar graph below shows the Co-Curriculum Activities (CCA) the students in Class 6B joined. Every student in Class 6B joined only one CCA.



[2]

- (a) Each student in Chess CCA paid \$9 to buy a Chess CCA t-shirt. The amount of money collected from the boys was \$18 more than the amount of money collected from the girls. What was the ratio of the number of boys to the number of girls in Chess CCA? Give your answer in the simplest form.
- (b) The ratio of the number of students who joined Art CCA to the total number of students who joined Basketball CCA, Robotics CCA and Choir CCA was 4 : 5. Draw and shade the bar to show the number of students who joined Robotics CCA.

Ans: (a) _____ [3]

End of Paper

PG MAINS WA1 2022

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 The number of cars is $\frac{14}{24}$ of the number of motorcycles in a carpark. What is the ratio of the number of motorcycles to the number of cars in the carpark? Give your answer in its simplest form.

- (1) 7:12
- (2) 12:7
- (3) 14:24
- (4) 24:14

$$\begin{aligned}
 C:M &\rightarrow M:C \\
 14:24 & \quad 24:14 \\
 & \quad \quad \quad \div 2 \quad \div 2 \\
 & \quad \quad \quad 12:7 \quad (2) \\
 & \quad \quad \quad \text{Ans) }
 \end{aligned}$$

2 What is the value of $2940 \div 700$?

- (1) 32
- (2) 42
- (3) 320
- (4) 420

$$\begin{aligned}
 & \frac{2940}{700} \\
 & = 4.2 \text{ (ans) } \quad (2)
 \end{aligned}$$

5 What is the value of $\frac{1}{4} \times \frac{12}{5}$?

- (1) $\frac{3}{5}$
- (2) $\frac{2}{5}$
- (3) $\frac{5}{18}$
- (4) $\frac{5}{18}$

$$\begin{aligned}
 & \frac{1}{4} \times \frac{12}{5} = \frac{3}{5} \text{ (ans) } \\
 & \quad \quad \quad (1)
 \end{aligned}$$

6 $\frac{6}{7}$ of a cake is cut equally into 12 slices. What fraction of the whole cake is each slice?

- (1) $\frac{1}{14}$
- (2) $\frac{1}{42}$
- (3) $\frac{18}{7}$
- (4) $\frac{72}{7}$

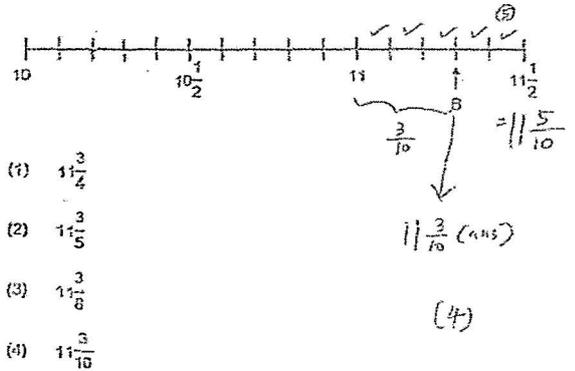
$$\begin{aligned}
 & \frac{6}{7} \div 12 \\
 & = \frac{6}{7} \times \frac{1}{12} \text{ (KFC)} \\
 & = \frac{1}{14} \text{ (ans) } \quad (1)
 \end{aligned}$$

3 What is the value of $\frac{11}{12} + \frac{3}{4} - \frac{1}{4}$?

$$\begin{aligned}
 (1) \quad & \frac{7}{12} \\
 (2) \quad & \frac{8}{12} \\
 (3) \quad & \frac{15}{12} \\
 (4) \quad & \frac{17}{12}
 \end{aligned}$$

$$\begin{aligned}
 & \frac{11}{12} + \frac{3}{4} \times \frac{3}{3} - \frac{1}{4} \times \frac{3}{3} \\
 & = \frac{11}{12} + \frac{9}{12} - \frac{3}{12} \\
 & = \frac{17}{12} \text{ (ans) } \quad (4)
 \end{aligned}$$

4 In the number line below, what is the mixed number represented by B?



7 Which of the following is the same as 10 007 g?

- (1) 1.07 kg
- (2) 10.07 kg
- (3) 10.007 kg
- (4) 100.07 kg

$$\begin{aligned}
 & 1 \text{ kg} = 1000 \text{ g} \\
 & 10.007 \text{ kg} = 10\,007 \text{ g} \\
 & \text{Ans) } \quad (3)
 \end{aligned}$$

8 What is the value of $2.5 \div 500$?

- (1) 5
- (2) 0.5
- (3) 0.05
- (4) 0.005

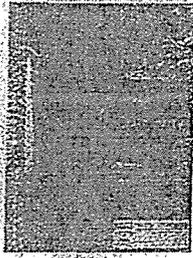
$$\begin{aligned}
 & 2.5 \div 500 \\
 & = 2.5 \div 5 \div 100 \\
 & = 0.5 \div 100 \\
 & = 0.005 \text{ (ans) } \quad (4)
 \end{aligned}$$

9 There are 200 children in a camp. 150 of them are girls. What percentage of the children are boys?

- (1) 30%
- (2) 35%
- (3) 65%
- (4) 70%

$$\begin{aligned}
 & 200 - 150 = 70 \text{ boys} \\
 & \frac{70}{200} \times 100\% \\
 & = 35\% \text{ (ans) } \quad (2)
 \end{aligned}$$

- 10 Which of the following is likely to be the mass of a Nanyang Primary School student handbook?



- (1) 20 kg
 (2) 2 g
 (3) 2000 g
 (4) 200 g

(4)

- 11 The ratio of the number of red pins to the number of yellow pins to the number of green pins is 4 : 5 : 3. The total number of yellow pins and green pins is 120. How many red pins are there?

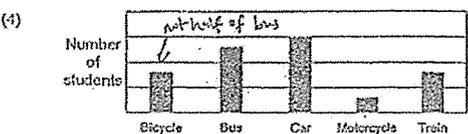
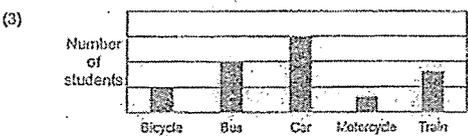
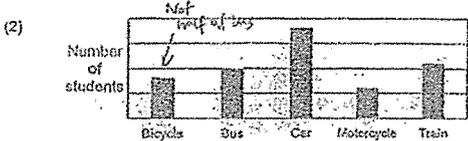
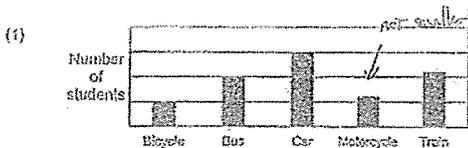
- (1) 30
 (2) 60
 (3) 95
 (4) 180

$R : Y : G = 4 : 5 : 3$
 $Y + G = 120$
 $4 : 5 : 3$
 $8u = 120$ (2)
 $1u = 15$
 $4u = 15 \times 4 = 60$ (ans)

- 13 The table below shows the modes of transport used by students in Class 6E to go to school.

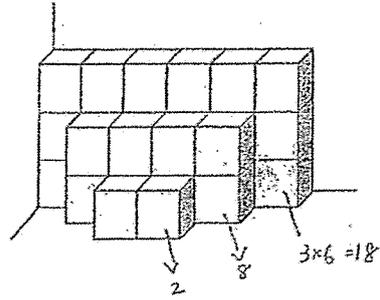
| Mode of Transport | Bicycle | Bus | Car | Motorcycle | Train |
|--------------------|---------|-----|-----|------------|-------|
| Number of students | 5 | 10 | 15 | 3 | 8 |

Which of the following bar graphs represents the information shown in the table above?



(3)

- 12 The solid below is built using 1-cm cubes. Find the volume of the solid.



- (1) 28 cm³
 (2) 26 cm³
 (3) 20 cm³
 (4) 18 cm³

$2 + 8 + 18 = 28$

28 cm^3 (1)

- 14 Mdm Nor used $\frac{1}{3}$ of her money to buy 4 oranges and 8 apples. The cost of 2 oranges was the same as that of 3 apples. What was the greatest number of apples that Mdm Nor could buy with $\frac{1}{2}$ of the money she had at first?

- (1) 8
 (2) 14
 (3) 21
 (4) 42

$\frac{1}{3}$ of \$ \rightarrow 4 oranges + 8 apples

2 oranges = 3 apples

4 oranges = 6 apples

$\frac{1}{3}$ of \$ \rightarrow 6 apples + 8 apples = 14 apples

Whole = $\frac{2}{3}$ of \$ $\rightarrow 14 \times 3 = 42$ apples

$\frac{1}{2}$ of \$ $\rightarrow 42 \div 2 = 21$ apples (ans)

- 15 A table with 4 columns is filled with numbers in a certain pattern. The first 6 rows of the table are shown below.

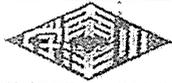
| | Column A | Column B | Column C | Column D |
|-------|----------|----------|----------|----------|
| Row 1 | 8 | 5 | 4 | 3 |
| Row 2 | 7 | 8 | 9 | 10 |
| Row 3 | 14 | 13 | 12 | 11 |
| Row 4 | 15 | 16 | 17 | 18 |
| Row 5 | 22 | 21 | 20 | 19 |
| Row 6 | 23 | 24 | 25 | 26 |

In which column will the number 343 appear?

- (1) Column A
 (2) Column B
 (3) Column C
 (4) Column D

$343 \div 8 = 42 \text{ R } 7$

$42 \times 8 = 336$ (Column B)
 multiple of 8
 7 places after 336



NANYANG PRIMARY SCHOOL

TERM 1 WEIGHTED ASSESSMENT
2022

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 / 25

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

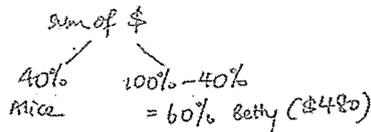
- 19 Jonas has \$10. He spends 95¢ on a sandwich and 80¢ on a drink. How much money does Jonas have left?

$$10.00 - 0.95 - 0.80$$

$$= 8.25 \text{ (ans)}$$

Ans: \$ 8.25

- 20 Alice and Betty donated a sum of money to charity. 40% of the sum of money was donated by Alice. Betty donated \$480. Find the total sum of money donated by Alice and Betty.



$$60\% \rightarrow 480$$

$$10\% \rightarrow 480 \div 6 = 80$$

$$100\% \rightarrow 80 \times 10 = 800 \text{ (ans)}$$

Ans: \$ 800

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 $100 \div (25 - 15) + 8 \times 7$.

$$100 \div (25 - 15) + 8 \times 7$$

$$= 100 \div 10 + 8 \times 7$$

$$= 10 + 8 \times 7$$

$$= 10 + 56 = 66 \text{ (ans)}$$

Ans: 66

- 17 Find the value of $10 \div \frac{3}{8}$. Give your answer as a mixed number in its simplest form.

$$10 \div \frac{3}{8}$$

$$= 10 \times \frac{8}{3} \text{ (KFC)}$$

$$= \frac{80}{3} = 26 \frac{2}{3} \text{ (ans)}$$

Ans: 26 $\frac{2}{3}$

- 18 Jennie used 350 g of flour to bake 7 buns. How many such buns could she bake with 250 g of flour?

$$350 \div 7 = 50 \text{ (1 bun)}$$

$$250 \div 50 = 5 \text{ buns (ans)}$$

Ans: 5

Questions 21 to 26 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 Mrs Ong had some potted plants at first. After she sold 240 potted plants, she was left with 20% of the potted plants she had at first. How many potted plants did she have at first?

? - 240 \rightarrow left 20% of potted plants at first

\hookrightarrow means 80% of potted plants

80% \rightarrow 240

10% $\rightarrow 240 \div 8 = 30$

100% $\rightarrow 30 \times 10 = 300 \text{ (ans)}$

Ans: 300

- 22 Mr Menon had $\frac{5}{6}$ kg of sugar. He packed all the sugar into packets of $\frac{5}{18}$ kg each. How many such packets of sugar did he pack?

$$\frac{5}{6} \div \frac{5}{18} = \frac{5}{6} \times \frac{18}{5} \text{ (KFC)}$$

$$= 3 \text{ (ans)}$$

Ans: 3

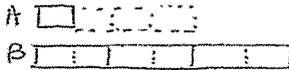
- 23 Ismail has 350 buttons. $\frac{2}{5}$ of the buttons are red and the rest are blue. How many blue buttons does he have?

$$1 - \frac{2}{5} = \frac{3}{5} \text{ (blue)}$$

$$\frac{3}{5} \times 350 = 210 \text{ (ans)}$$

Ans: 210

- 24 Four times of Ali's mass is equal to $\frac{2}{3}$ of Bola's mass. What is the ratio of Ali's mass to their total mass?



$A = 4u$
 $B = 12u$
 $A : B = 4 : 12 = 1 : 3$
 $1 : 3$
 $1 + 3 = 4$
 $1 : 4$ (Ans) Ans: 1 : 4

- 25 Chang had 90 stickers. The ratio of the number of stickers Chang had to the number of stickers Daii had was 9 : 5. How many stickers must Chang give to Daii so that both of them would have the same number of stickers?

$C = D = \text{total}$
 $9 : 5 = 14$
 $9u = 90$
 $3u = 30$
 $1u = 10$
 $2u = 10 \times 2 = 20$ (Ans)
 $7 : 7 = 14$
 $7u = 70$
 20 (Ans) Ans: 20

- 26 The ratio of the number of apples to the number of oranges Jisoo had was 7 : 3 at first. After she bought 33 apples and 33 oranges, the ratio of the number of apples to the number of oranges became 5 : 3. Find the total number of apples and oranges she had at first.

$A : B = \text{Diff}$
 $7 : 3 = 4$
 $(+33) (+33)$
 $5 : 3 = 2$
 $10 : 6 = 4$
 $10u = 140$
 $7u = 49$
 $3u = 21$
 $10u = 10 \times 11 = 110$ (Ans)
 110 (Ans) Ans: 110

- 27 Rosnie had \$18 at first. After John gave \$8 to Rosnie, he had thrice as much money as Rosnie. How much money did John have in the end?

$18 + 8 = 24$ (R) at the end
 $1u = 24$
 $3u = 24 \times 3$
 $= 72$ (J) at the end
 $72 - 8 = 64$ (Ans)
 64 (Ans) Ans: \$64

- 28 How many 4-digit numbers are there such that each number gives 3000 when rounded to the nearest thousand? The digits 2, 3, 5 and 0 appear once in each number.

$\begin{matrix} \boxed{2} & \boxed{3} & \boxed{5} & \boxed{0} \\ \text{① } 2503 \\ \text{② } 2530 \\ \text{③ } 3025 \\ \text{④ } 3052 \\ \text{⑤ } 3250 \\ \text{⑥ } 3205 \end{matrix}$ } ≈ 3000
 6 (Ans) Ans: 6

- 29 Lisa paid \$40.50 for a chocolate cake and 6 fruit tarts. Samuel paid \$25.50 for one such chocolate cake and 2 such fruit tarts. How much did one such chocolate cake cost?

$1C + 6T = 40.5$
 $1C + 2T = 25.5$
 $4T = 40.5 - 25.5$
 $= 15$
 $2T = 15 \div 2$
 $= 7.5$
 $1C = 25.5 - 7.5$
 $= 18$ (Ans)
 18 (Ans) Ans: \$18

- 30 Shop A and Shop B sell pens of four colours. The table below shows the number of pens sold by each shop in January. The number of blue pens sold by Shop A is not shown.

| Colour | Number of pens sold by Shop A | Number of pens sold by Shop B |
|--------|-------------------------------|-------------------------------|
| Red | 140 | 120 |
| Blue | ? | 335 |
| Black | 210 | 245 |
| Purple | 80 | 100 |

In January, 50% of the pens sold by Shop A were blue pens. $50\% \rightarrow 140 + 80 = 220$
 $= 420$ (blue)

Each of the statements 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 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|-------|----------------------|
| (430) Shop A sold more blue pens than Shop B in January. | ✓ | | |
| The number of black pens sold by Shop B in January was twice the number of black pens sold by Shop A in February. 245 is not divisible by 2 together with the number of pens. | | ✓ | |
| In January, 15% of the pens sold by Shop B were red pens. | ✓ | | |

$\frac{120}{120 + 335 + 245 + 100} \times 100\% = 15\%$ (true)

End of 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. Ji Eun had $6\frac{3}{4}$ m of cloth at first. She used $3\frac{7}{10}$ m of the cloth to make some shirts. She then bought $4\frac{2}{5}$ m of cloth. How many metres of cloth did she have in the end?

$$6\frac{3}{4} - 3\frac{7}{10} + 4\frac{2}{5} = 7\frac{9}{20} \text{ m (ans)}$$

Ans: $7\frac{9}{20}$ m

2. The area of a rectangle is $1\frac{11}{25}$ m². What is the total area of 4 such rectangles?

$$1\frac{11}{25} \times 4 = 5\frac{19}{25} \text{ m}^2 \text{ (ans)}$$

Ans: $5\frac{19}{25}$ m²

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)

5. 48% of a number is 312.

$$48\% \rightarrow 312$$

(a) What is the number?

$$1\% \rightarrow \frac{312}{48}$$

(b) What is 88% of the number?

$$100\% \rightarrow \frac{312}{48} \times 100 = 650 \text{ (ans (a))}$$

$$\frac{88}{100} \times 650 = 572 \text{ (ans (b))}$$

Ans: (a) 650 [2]

(b) 572 [1]

7. The prices of masks sold in a pharmacy are shown in the table below.

| | |
|----------------------------------|-----------------|
| First 50 masks | \$2.00 |
| Next 50 masks | \$0.15 per mask |
| Additional masks above 100 masks | \$0.10 per mask |

Rose wants to buy 135 masks. What is the least amount of money she has to pay?

$$135 \rightarrow 50 + 50 + 35$$

$$\begin{array}{l} \$8 \\ \$0.15 \times 50 \\ = \$7.50 \end{array} \quad \begin{array}{l} \$0.10 \times 35 \\ = \$3.50 \end{array}$$

$$\$8 + \$7.50 + \$3.50 = \$19 \text{ (ans)}$$

Ans: \$19 [3]

3. The price of a pair of sneakers is \$190 before GST. What is the price of the sneakers after adding 7% GST?

$$100\% + 7\% = 107\%$$

$$\frac{107}{100} \times \$190 = \$203.30 \text{ (ans)}$$

Ans: \$203.30

4. The average cost of a calculator and a storybook is \$36. The storybook costs $\frac{1}{3}$ as much as the calculator. What is the cost of the calculator?

$$\text{Total} \rightarrow 36 \times 2 = 72$$

$$SB \rightarrow 1u \quad C \rightarrow 3u \quad \left. \begin{array}{l} 4u = 72 \\ 1u = 72 \div 4 \\ = 18 \end{array} \right\} \begin{array}{l} SB = 18 \\ C = 54 \end{array}$$

$$1u = 72 \div 4 = 18$$

$$3u = 18 \times 3 = 54 \text{ (ans)}$$

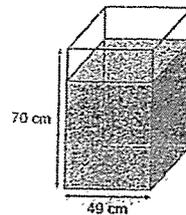
Ans: \$54

5. At 9 a.m., a tap was turned on to fill an empty tank at a rate of 6 l per minute. At 9.05 a.m., another tap was turned on to fill the same tank at a rate of 3 l per minute. At what time were there 75 l of water in the tank?

| | | |
|-----------|------------------------------------------------|-----------------------------------------------------------------------------------|
| Time | | $75 - 30 = 45$ |
| 9 a.m. | 6 l/min | $6 \text{ l/min} + 3 \text{ l/min} = 9 \text{ l/min}$ |
| 9.05 a.m. | $6 \times 5 = 30 \text{ l}$ + tap (3 l/min) | $45 \div 9 = 5$ 5 min after 9.05 a.m. $\rightarrow 9.10 \text{ a.m. (ans)}$ |
| ? | 75 l (total) | |

Ans: 9.10 a.m.

6. A rectangular tank with a square base is $\frac{5}{7}$ filled with water as shown below. Find the volume of water in the tank. Give your answer in litres and millilitres.



$$\frac{5}{7} \times 70 \times 49 \times 49 = 120050$$

$$120050 \text{ cm}^3 = 120 \text{ l } 50 \text{ ml}$$

Ans: 120 l 50 ml [3]

9. Mr Tan had 8 kg of peanuts in a sack at first. He packed the peanuts into bags. Each bag contained $\frac{3}{8}$ kg of peanuts.

(a) What was the greatest number of bags he could fill with $\frac{3}{8}$ kg of peanuts each?

(b) Find the mass of the peanuts left unpacked in the sack.

$$8 \div \frac{3}{8} = 8 \times \frac{8}{3}$$

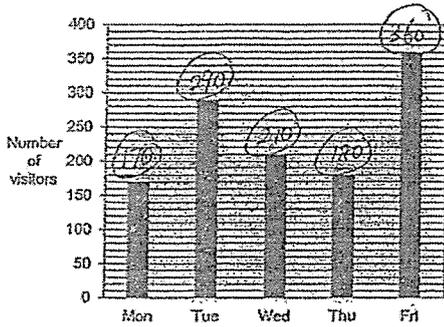
$$= 21\frac{1}{3} \approx 21 \text{ packets (ans (a))}$$

$$1 \times \frac{3}{8} \times \frac{3}{8} = \frac{1}{8}$$

Ans: (a) 21 [1]

(b) $\frac{1}{8}$ kg [2]

- 10 The bar graph below shows the number of visitors to a park from Monday to Friday last week.



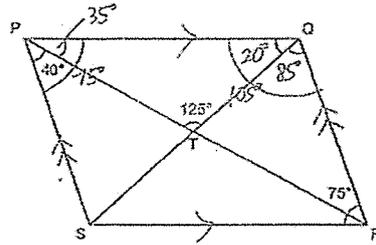
- (a) What was the average number of visitors from Monday to Friday last week?
 (b) The average number of visitors on Saturday and Sunday was twice the average number of visitors from Monday to Friday last week. Write down one possible set of values for the number of visitors on Saturday and Sunday.

$$\frac{170 + 290 + 210 + 180 + 360}{5} = 242 \text{ (Ans)}$$

$242 \times 2 = 484$ (ave of Sat & Sun)
 $484 \times 2 = 968$ (total of Sat & Sun)
 Any 2 values that add up to 968 are acceptable.
 E.g. $900 + 68 = 968$
 (Ans) (Ans)

Ans: (a) 242 [1]
 (b) 900, 68 [2]

- 11 PQRS is a parallelogram. PTR and STQ are straight lines. $\angle SPT = 40^\circ$, $\angle PTQ = 125^\circ$ and $\angle SRQ = 75^\circ$.



- (a) Find $\angle PQT$.
 (b) Find $\angle TQR$.

$$\angle SPQ = \angle SRQ \text{ (Opp. } \angle \text{ of parallelogram)}$$

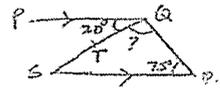
$$= 75^\circ$$

$$\angle RPQ = 75^\circ - 40^\circ = 35^\circ$$

$$\angle PRT = 180^\circ - 35^\circ - 125^\circ = 20^\circ \text{ (Ans)}$$

$$\angle PQR = 180^\circ - 75^\circ = 105^\circ$$

$$\angle TQR = 105^\circ - 20^\circ = 85^\circ \text{ (Ans)}$$



Ans: (a) 20° [1]
 (b) 85° [2]

- 12 At first, Tze Peng baked a total of 120 chocolate cupcakes and vanilla cupcakes. The ratio of the number of chocolate cupcakes to the number of vanilla cupcakes was 1 : 3 at first. He then bought some chocolate cupcakes. After that, 80% of the total cupcakes were chocolate cupcakes.

- (a) What was the ratio of the number of vanilla cupcakes to the number of chocolate cupcakes in the end?
 (b) How many chocolate cupcakes did Tze Peng buy?

| C | V | Total |
|------|----|-------|
| 1u | 3u | 4u |
| + | ? | |
| 60 | 40 | 100 |
| = 3p | 2p | 5p |

$4u = 120$
 $1u = 120 \div 4 = 30$
 $3u = 30 \times 3 = 90$ Vanilla at 1st

 $2p = 90$
 $1p = 90 \div 2 = 45$
 $3p = 45 \times 3 = 105$ (Ans)

V : C
 2 : 3 (Ans)

Ans: (a) 2:3 [1]
 (b) 105 [3]

- 13 In a library, 45% of the books are English books, $\frac{3}{5}$ of the remaining books are Chinese books and the rest are Malay books. The difference between the number of Chinese books and Malay books is 176. How many English books are there in the library?

Total books: 45% Eng, 55% remaining (100% - 45% = 55%)
 55% remaining: $\frac{3}{5}$ Chinese, $1 - \frac{3}{5} = \frac{2}{5}$ Malay
 $3u - 2u = 1u$
 $1u = 176$
 $5u = 176 \times 5 = 880$ (remaining)
 $55\% \rightarrow 880$
 $1\% \rightarrow 880 \div 55$
 $45\% \rightarrow 880 \div 55 \times 45 = 720$ (Ans)

Ans: 720 [4]

14 The original price of a washing machine was \$1380. Iskandar bought it at a 30% discount during a sale.

- (a) How much did Iskandar pay for the washing machine?
 (b) He paid \$76.80 for a hair dryer. The total discount for the washing machine and the hair dryer was \$485.20. Express the discount for the hair dryer as a percentage of its original price.

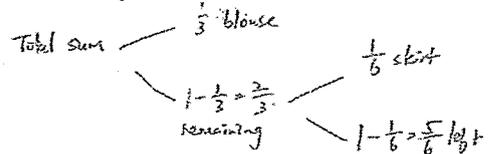
Original \rightarrow \$1380
 Discount \rightarrow 30%
 paying \rightarrow $100\% - 30\% = 70\%$
 $\frac{70}{100} \times \$1380 = \966 (ans (a))

Discount for washing machine
 $= \frac{30}{100} \times 1380 = 414$
 $465.2 - 414 = 51.2$ (discount for hair dryer)
 original for hair dryer \rightarrow $51.2 \div 76.8 = 1.28$
 % discount for hair dryer
 $\rightarrow \frac{51.2}{128} \times 100\% = 40\%$

Ans: (a) \$966 [1]
 (b) 40% [3]

15 Mrs Lim had some money at first. She spent $\frac{1}{3}$ of it on a blouse and $\frac{1}{6}$ of the remaining money on a skirt. After her husband gave her \$484, she then had the same amount of money as she had at first.

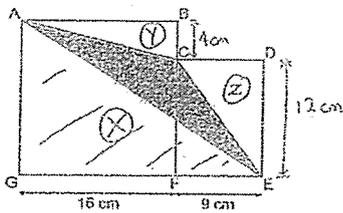
- (a) How much money did she spend on the skirt?
 (b) How much money did she have at first?



\$484 \rightarrow given by husband, and in the end same amount as 1st
 \downarrow
 means what she had spent = what she was given

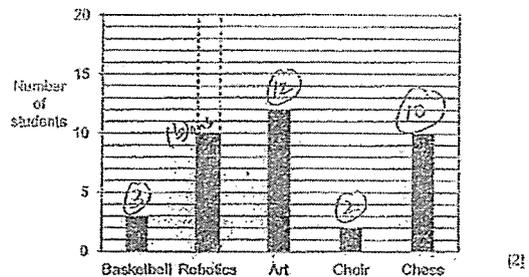
skirt $\rightarrow \frac{1}{6} \times \frac{2}{3} = \frac{1}{9}$
 $\frac{1}{3} + \frac{1}{9} = \frac{2}{9} + \frac{1}{9} = \frac{3}{9} = \frac{1}{3}$
 blouse skirt $= \frac{4}{9} \rightarrow 484$
 $\frac{1}{9} \rightarrow 484 \div 4 = \121 (ans (a))
 $\frac{9}{9} \rightarrow 121 \times 9 = \1089 (ans (b))
 Ans: (a) \$121 [2]
 (b) \$1089 [2]

16 In the figure below, ADFG is a square and CDEF is a rectangle. BCF and GFE are straight lines. CF is thrice as long as BC. Find the area of triangle ACE.



$CF = 3 \times BC$
 $CF = 3u$
 $BC = 1u$
 $BF = 16$ (ABFG is a square, all sides are equal.)
 $4u = 16$
 $1u = 16 \div 4 = 4$
 $3u = 4 \times 3 = 12$ (CF)
 Total Area $= (16 \times 16) + (9 \times 12)$
 $= 364$
 $X \rightarrow \frac{1}{2} \times (16+9) \times 16 = 200$
 $Y \rightarrow \frac{1}{2} \times 4 \times 16 = 32$
 $Z \rightarrow \frac{1}{2} \times 9 \times 12 = 54$
 Shaded $= 364 - 200 - 32 - 54 = 78 \text{ cm}^2$ (ans)
 Ans: 78 cm² [5]

17 The bar graph below shows the Co-Curriculum Activities (CCA) the students in Class 6B joined. Every student in Class 6B joined only one CCA.



- (a) Each student in Chess CCA paid \$9 to buy a Chess CCA t-shirt. The amount of money collected from the boys was \$18 more than the amount of money collected from the girls. What was the ratio of the number of boys to the number of girls in Chess CCA? Give your answer in the simplest form.
 (b) The ratio of the number of students who joined Art CCA to the total number of students who joined Basketball CCA, Robotics CCA and Choir CCA was 4:5. Draw and shade the bar to show the number of students who joined Robotics CCA.
 a) $18 \div 9 = 2$ more boys than girls in Chess.
 10 pupils in chess
 $10 \div 2 = 8$
 $8 \div 2 = 4$ girls
 $10 - 4 = 6$ boys
 $B : G = 6 : 4 = 3 : 2$ (a) (ans)
 b) Art : B + R + Ch
 $12 = 3 + R + 2 = 4 + R$
 $R = 12 - 4 = 8$
 Ans: (a) 3:2 [3]
 R = 15 - 3 - 2 = 10 (draw 10 in graph)

End of Paper

