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)

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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

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

Ans: _____ $m^2$

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

Ans: $_____

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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: _____

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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)

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**6** 48% of a number is 312.

(a) What is the number?

(b) What is 66% of the number?

Ans: (a) _____ [2]

(b) _____ [1]

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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]

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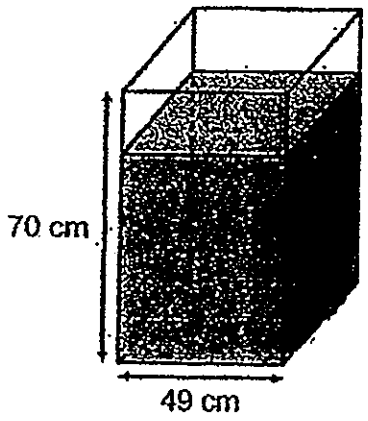
8 A rectangular tank with a square base is $\frac{5}{7}$ –filled with water as shown below. Find the volume of water in the tank. Give your answer in litres and millilitres.




Ans: _____ [3]

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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]

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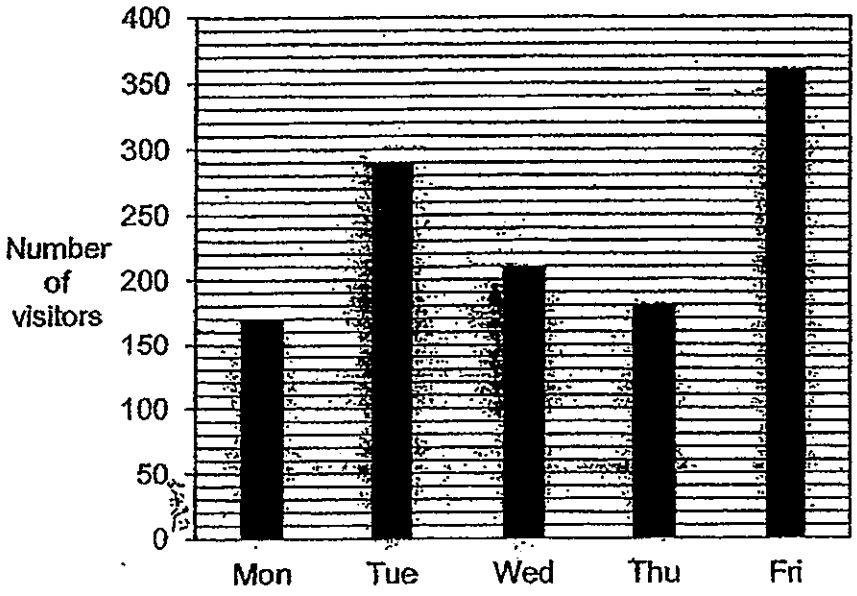
10 The bar graph below shows the number of visitors to a park from Monday to Friday last week.



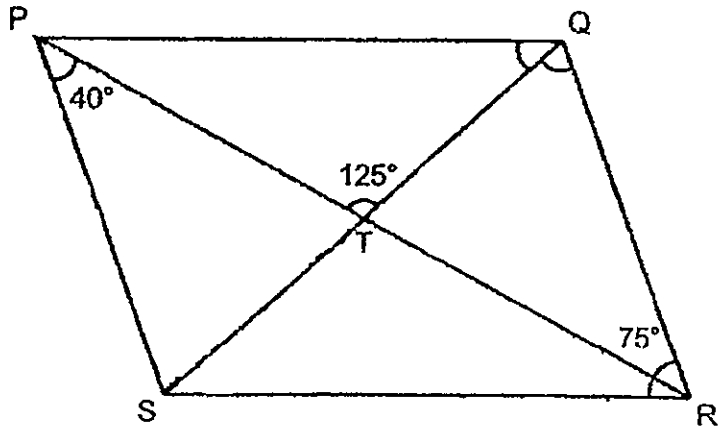

(a) What was the average number of visitors from Monday to Friday last week?

(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.
$\angle SPT = 40°$, $\angle PTQ = 125°$ and $\angle SRQ = 75°$.




(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.

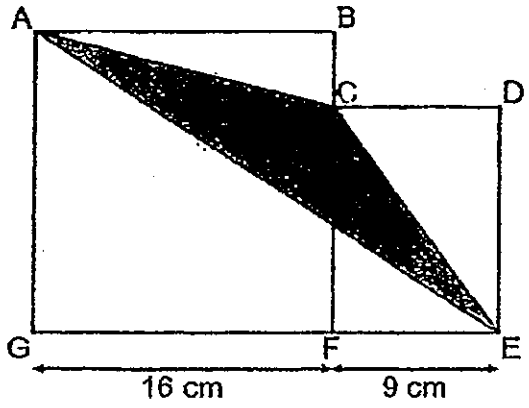
(a) How much money did she spend on the skirt?

(b) How much money did she have at first?

Ans: (a) _____ [2]

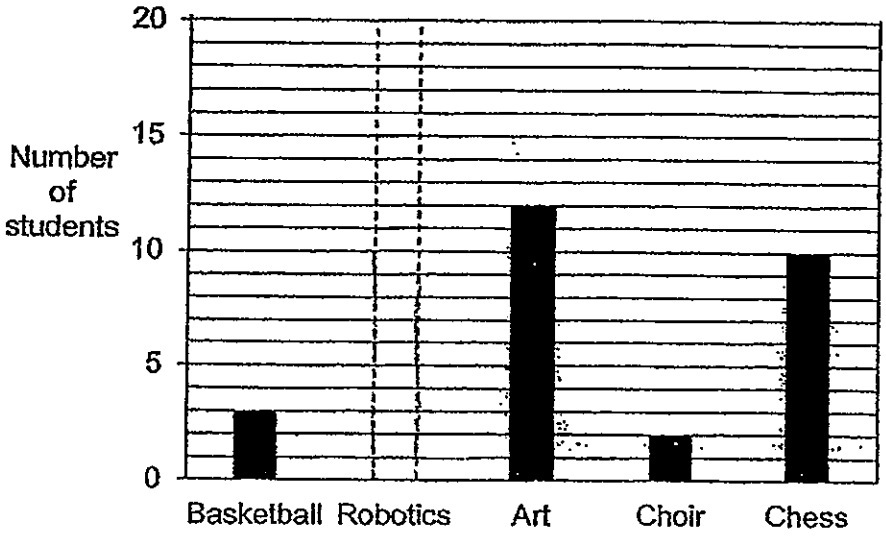
(b) _____ [2]

**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

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 Jl Eun had $8\frac{3}{4}$ 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?

$8\frac{3}{4}\text{m} - 3\frac{7}{10}\text{m} + 4\frac{2}{5}\text{m} = 7\frac{9}{20}$ 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?

$1\frac{11}{25}\text{m}^2 \times 4 = 5\frac{19}{25}$ m² (ans)

Ans: $5\frac{19}{25}$ m²

1

3 The price of a pair of sneakers is $180 before GST. What is the price of the sneakers after adding 7% GST?

100% + 7% = 107%

$\frac{107}{100} \times \$190 = \$203.30$ (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?

Total → 36 x 2 = 72

SB → 1u, C → 3u } 4u = $72

1u = $72 ÷ 4 = $18

3u = $18 x 3 = $54 (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 | |
|---|---|
| 9 a.m. | 6ℓ/min |
| 9.05 a.m. | 6ℓ x 5 = 30ℓ + tap (3ℓ/min) |
| ? | 75ℓ (total) |

75 − 30 = 45

6ℓ/min + 3ℓ/min = 9ℓ/min

45 ÷ 9 = 5

5 min after 9.05 a.m. → 9.10 a.m. (ans)

Ans: 9.10 a.m.

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 48% of a number is 312.

(a) What is the number?

(b) What is 86% of the number?

48% → 312

1% → 312 ÷ 48

100% → 312 ÷ 48 x 100 = 650 (ans (a))

$\frac{86}{100} \times 650 = 429$ (ans (b))

Ans: (a) 650 [2]

(b) 429 [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?

135 → 50 + 50 + 35

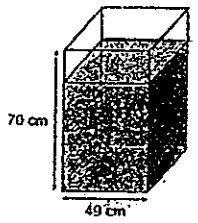
$8, $0.15 x 50 = $7.50, $0.10 x 35 = $3.50

$8 + $7.50 + $3.50 = $19 (ans)

Ans: $19 [3]

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.




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

= 120 050

120 050 cm³ = 120ℓ 50mℓ

Ans: 120ℓ 50mℓ [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.

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

$= 2\frac{1}{2} \approx 21$ packets (ans (a))

$\frac{1}{2} \times \frac{3}{8} = \frac{3}{16}$

$\frac{1}{8}$ kg (ans (b))

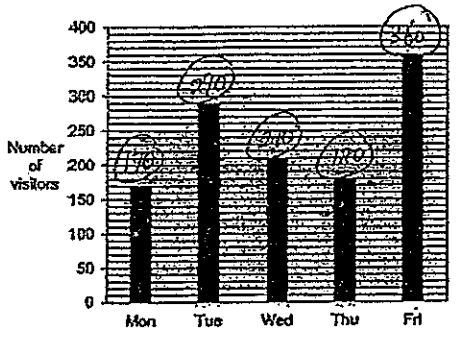
Ans: (a) 21 [1]

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

4

5

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.

$\frac{170+290+210+180+360}{5} = 242$ (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.

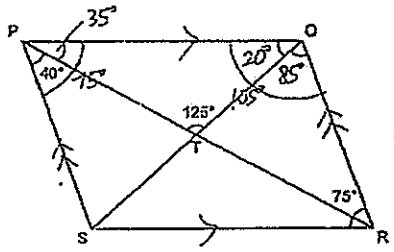
E.g. $900 + 68 = 968$ (ans)

Ans: (a) 242 [1]

(b) 900 , 68 [2]

5

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




(a) Find $\angle PQT$.

(b) Find $\angle TQR$.

$\angle SPQ = \angle SRQ$ (opp $\angle$s of parallelogram)

$= 75°$

$\angle RPQ = 75° - 40°$

$= 35°$

$\angle PRT = 180° - 35° - 125°$

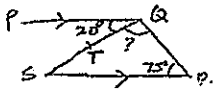
$= 20°$ (ans)

$\angle PQR = 180° - 75°$

$= 105°$

$\angle TQR = 105° - 20°$

$= 85°$ (ans)




Ans: (a) 20° [2]

(b) 85° [2]

6

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 |
| +? | | |
| $60_{+2u}$ | $40_{+2u}$ | $100_{+20}$ |
| 3p | 2p | 5p |

120 total

$4u = 120$

$1u = 120 \div 4$

$= 30$

$3u = 30 \times 3$

$= 90$ Vanilla at 1st

$2p = 90$

$1p = 90 \div 2$

$= 45$

$3p = 45 \times 3$

$= 105$ (ans)

V : C

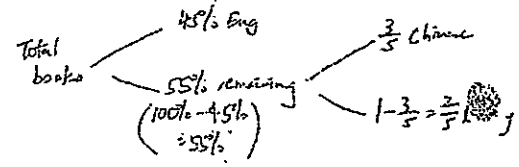
2 : 3 (ans)

Ans: (a) 2 : 3. [1]

(b) 105 [3]

7

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?




$3u - 2u = 1u$

$1u = 176$

$5u = 176 \times 5$

$= 880$ (remaining)

55% → 880

1% → 880 ÷ 55

45% → 880 ÷ 55 × 45

$= 720$ (ans)

Ans: 720 [4]

8

6

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.

Original → $1380
Discount → 30%
paying → 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 hairdryer)
original for hairdryer → 51.2 + 76.8
= 128
% discount for hairdryer
→ $\frac{51.2}{128} \times 100\% = 40\%$

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

9

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?

Total sum — $\frac{1}{3}$ blouse; $1 - \frac{1}{3} = \frac{2}{3}$ remaining — $\frac{1}{6}$ skirt; $1 - \frac{1}{6} = \frac{5}{6}$ left

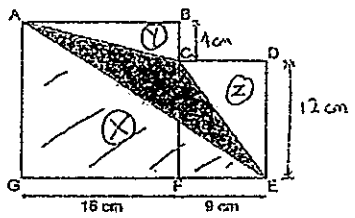
$484 → given by husband, and is the same amount at 1st
means what she had spent = what she was given

skirt → $\frac{1}{6} \times \frac{1}{3} = \frac{1}{9}$
$\frac{1}{3} + \frac{1}{9} = \frac{3}{9} + \frac{1}{9}$
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]

10

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.



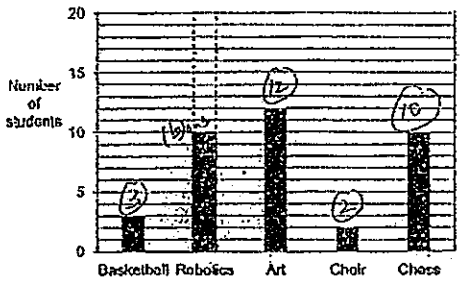

CF = 3 × BC
CF = 3u
BC = 1u
BF = 16 (ABFG is a square. all sides are equal.)
4u = 16
1u = 16 ÷ 4
= 4
3u = 4 × 3
= 12 (CF)
Total area = (16 × 16) + (9 × 12)
= 364
X → $\frac{1}{2} \times (16+9) \times 16 = 200$
Y → $\frac{1}{2} \times 4 \times 16 = 32$
Z → $\frac{1}{2} \times 9 \times 12 = 54$
Shaded = 364 − 200 − 32 − 54 = 78 cm² (ans)

Ans: 78 cm² [5]

11

END
7

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 $0 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 ÷ 9 = 2 more boys than girls in Chess.
10 pupils in Chess
10 ÷ 2 = 8
8 ÷ 2 = 4 girls
10 − 4 = 6 boys
B : G
6 : 4 = 3 : 2 (a)(ans)

b) Art : B + R + Ch
12 = 3 + R + 2
$\downarrow$ = 12 : 15
R = 15 − 3 − 2 = 10 (draw 10 in graph)

Ans: (a) 3 : 2 [3]

End of Paper

12