SA1

# METHODIST GIRLS' SCHOOL (PRIMARY)

Founded in 1887

## MID-YEAR EXAMINATION 2021
## PRIMARY 6
## MATHEMATICS

## PAPER 1
## BOOKLET A

Total Time for Booklets A and B: 1 hour

INSTRUCTIONS TO CANDIDATES

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

Name: _____ (  )

Class: Primary 6._____

Date: 18 May 2021

| | |
|---|---|
| | 20 |

This booklet consists of 7 printed pages including this page.

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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 correct oval (1, 2, 3 or 4) on the Optical Answer Sheet. (20 marks)

---

**1** ☆ × 20 = 500.

What is the value of ☆?

(1) 250

(2) 100

(3) 30

(4) 25

**2** 19.09 kg = ____ kg ____ g

(1) 1 kg 909 g

(2) 19 kg 9 g

(3) 19 kg 90 g

(4) 190 kg 9 g

**3** Round off 2.834 to 2 decimal places.

(1) 2.80

(2) 2.83

(3) 2.84

(4) 2.90



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4 Find the value of $\frac{4}{7} - \frac{1}{3}$.

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

(2) $\frac{3}{21}$

(3) $\frac{5}{21}$

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

5 Arrange the following numbers from the smallest to the largest.

| 8 | 8.7 | 8.07 |
|---|---|---|

(1) 8 8.07 8.7

(2) 8.7 8 8.07

(3) 8.7 8.07 8

(4) 8.07 8.7 8

6 Which of the following would be the most likely mass of a laptop?



(1) 20 g

(2) 2 kg

(3) 20 kg

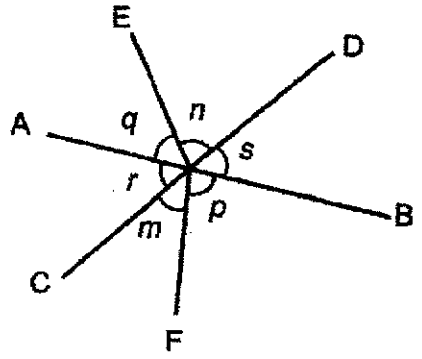
(4) 200 g



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7 In the diagram, AB and CD are straight lines. Which of the following statement is true?




(1) $\angle m = \angle n$

(2) $\angle p = \angle q$

(3) $\angle s = \angle p$

(4) $\angle s = \angle r$

8 Esther brought $\frac{7}{9}$ of a pizza to school. She ate $\frac{3}{5}$ of it. How much of the pizza had she eaten?

(1) $\frac{5}{7}$

(2) $\frac{7}{15}$

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

(4) $\frac{8}{45}$



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9 Siti made some lemonade drink by mixing the lemonade syrup with water in the ratio 1 : 3. She made 12 litres of the lemonade drink. How much water did she use?

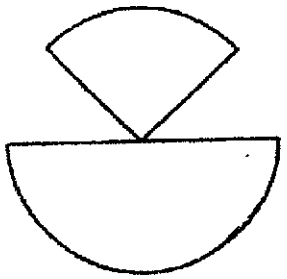
(1) 9 ℓ

(2) 8 ℓ

(3) 3 ℓ

(4) 4 ℓ

10 The figure is made up of a semicircle and a quarter circle of radius 7 cm. Find the perimeter of the figure. (Take $\pi = \frac{22}{7}$)



(1) 33 cm

(2) 47 cm

(3) 61 cm

(4) 115.5 cm



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11 The cost of a shirt was twice the cost of a pair of pants. The pair of pants cost $\$n$. Mr Samad bought 3 pairs of pants and a shirt. He gave the cashier \$100. Which of the following expressions shows the amount of change that Mr Samad received?

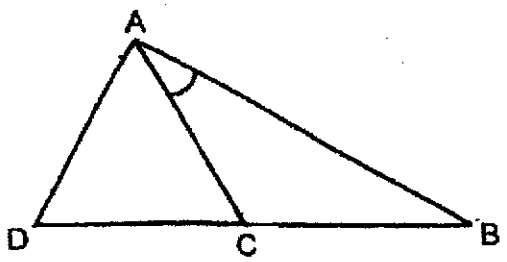
(1) $\$(100 - 3n)$

(2) $\$(100 - 4n)$

(3) $\$(100 - 5n)$

(4) $\$(100 - 7n)$

12 In the diagram below, ACD is an equilateral triangle. DCB is a straight line and BC = AC. Find ∠CAB.




(1) 30°

(2) 45°

(3) 60°

(4) 120°



(Go on to the next page)

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13 During a sale, the price of a blouse was sold at $40. This was 20% less than the usual selling price. What was the price of the blouse before the sale?

(1) $8

(2) $48

(3) $50

(4) $200

14 There were twice as many girls as boys in a Computer Club. After 15 girls left the club and 10 boys joined the club, there was an equal number of boys and girls in the club. How many girls and boys were there in the Computer Club at first?

(1) 15

(2) 25

(3) 50

(4) 75

15 Alice and Wei Ling shared the cost of a gift. Alice paid $\frac{2}{5}$ of the cost of the gift and an additional $36. Wei Ling paid $54. How much did the gift cost?

(1) $225

(2) $150

(3) $126

(4) $90



(Go on to Booklet B)

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# METHODIST GIRLS' SCHOOL (PRIMARY)

Founded in 1887

## MID-YEAR EXAMINATION 2021
## PRIMARY 6
## MATHEMATICS

## PAPER 1
## BOOKLET B

Total Time for Booklets A and B: 1 hour

INSTRUCTIONS TO CANDIDATES

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

Name: _____ (  )

Class: Primary 6._____

Date: 18 May 2021

| | |
|---|---|
| **Paper 1 Booklet A** | **/ 20** |
| **Paper 1 Booklet B** | **/ 25** |
| **Paper 2** | **/ 55** |
| **TOTAL** | **/ 100** |

Parent's Signature: _____

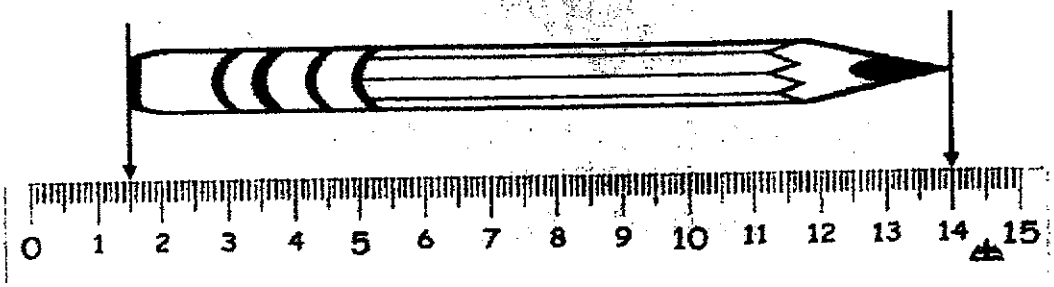
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Questions **16** to **20** carry 1 mark each. Write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (5 marks)

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**16** What is the length of the pencil?




Ans: _____ cm

**17** Find the value of $\frac{7}{9} \div 3$.

Ans: _____

**18** Express $\frac{3}{5}$ % as a decimal.

Ans: _____



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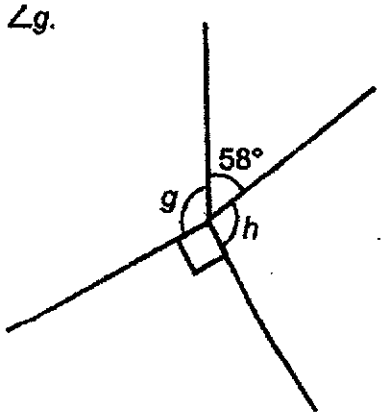
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19 Mary baked $m$ number of muffins in the morning. In the afternoon, she baked 58 muffins. She had 105 muffins in the end. How many muffins did she bake in the morning?

Do not write in this space

Ans: _____

20 In the diagram below, $\angle g = \angle h$. Find $\angle g$.




Ans: _____ °



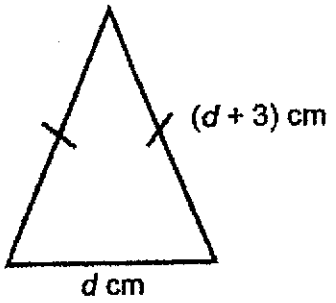
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Questions **21** to **30** carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (20 marks)

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**21** The perimeter of the isosceles triangle shown below is 36 cm. What is the value of $d$ ?




Ans: _____

**22** The ratio of Peter's money to John's money is 3 : 5. After Peter spent \$24, the ratio of Peter's money to John's money is 3 : 7. How much money did Peter have at first?

Ans: \$ _____



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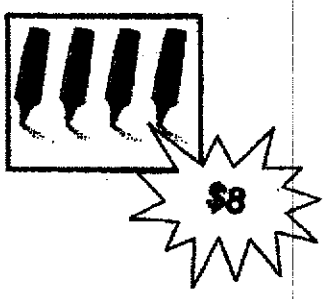
23 A repeated pattern is formed using the digits 1 and 3.
The first 15 digits are shown below. What is the sum of the first 24 digits?

1 3 1 3 1 1 3 1 3 1 1 3 1 3 1 . . .
1st 2nd 3rd 15th

Do not write in this space

Ans: _____

24 Highlighters are sold in packets of 4. Each packet is sold at $8.
Tom has $30. What is the maximum number of highlighters that he can buy?




Ans: _____



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25 The ratio of the amount of money Siew Li had to the amount of money Rachel had was 3 : 4. Each of them bought a bag which cost $45. The ratio of the amount of money Siew Li had to the amount of money Rachel had in the end was 3 : 7. How much money did Rachel have at first?

Do not write in this space

Ans: $_____

26 Ann saves 40% of her pocket money every month. When her pocket money increased by 20%, her savings also increased by $12. What was Ann's pocket money before the increase?

Ans: $_____

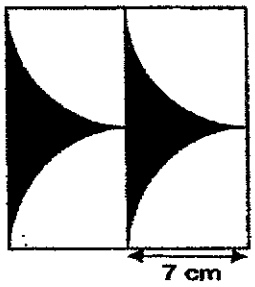


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27 The diagram below shows a pattern that is made up of identical squares and quadrants. Find the total shaded area. (Take $\pi = \frac{22}{7}$ )

Do not write in this space




Ans: _____ $cm^2$

28 Mrs Seeto had some oranges, apples and mangoes in her fruit basket. 40% of the fruits in the basket were oranges. The number of apples was $\frac{2}{3}$ the number of mangoes What percentage of her fruits was mangoes?

Ans: _____ %

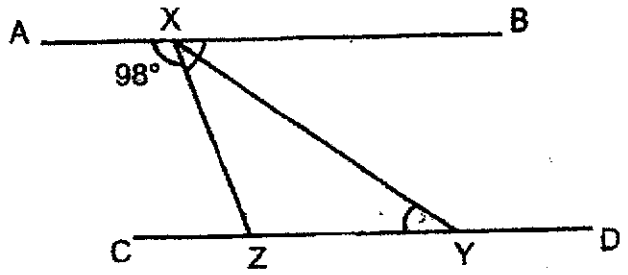


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**29** In the diagram below, AB is parallel to CD and XZ = YZ. Find ∠XYZ.




Ans: _____ °

**30** Mrs Tan bought a 100 kg sack of flour at $150. She repacked the flour into smaller packets. The mass of each smaller packet was $\frac{3}{5}$ kg. She sold all the smaller packets of flour at $2 each.

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 answers.

| Statement | True | False | Not possible to tell |
|---|---|---|---|
| After repacking, there were more than 100 smaller packets of flour. | | | |
| $\frac{2}{3}$ kg of flour was left. | | | |
| Mrs Tan collected more money than what she spent on the sack of flour. | | | |



End of Paper

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# METHODIST GIRLS' SCHOOL (PRIMARY)

Founded in 1887

## MID-YEAR EXAMINATION 2021
## PRIMARY 6
## MATHEMATICS

## PAPER 2

Duration: 1h 30 min

INSTRUCTIONS TO CANDIDATES

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

Name: _____ (  )

Class: Primary 6._____

Date: 18 May 2021

55

Parent's Signature: _____

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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 The total cost of a book and pen is \$26. The cost of the pen is $\frac{1}{4}$ the cost of the book. What is the cost of the book?

Ans: \$ _____

2 Water drips from a tap at a rate of 6 mℓ per second into an empty bucket. How much water is collected in 1 hour? Give your answer in litres.

Ans: _____ ℓ



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3 Mr Ahmad made soya bean drink using the recipe below.

Do not write in this space

**Soya Bean Recipe**

| Quantity | Ingredients |
|---|---|
| 250 g | soya bean |
| 40 g | sugar |
| 1.2 litres | water |
| 2 | pandan leaf |

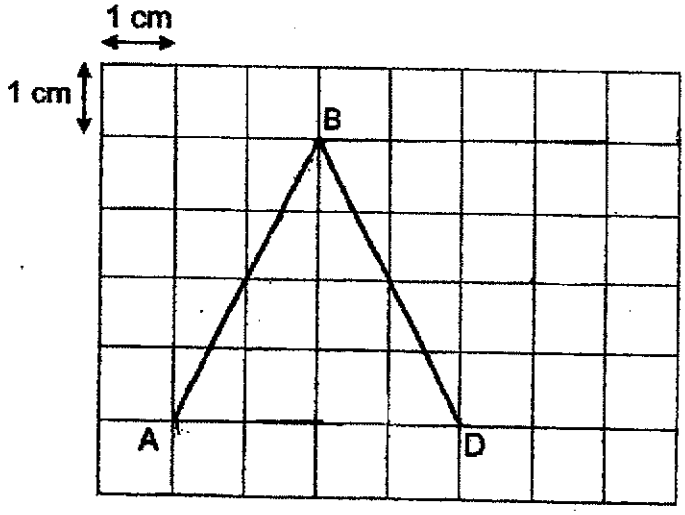
He used 1 kg of soya beans. How many grams of sugar did he use?

Ans: _____ g

4 In the grid below, the lines AB and BD have been drawn for you.

(a) Draw a parallelogram ABCD in the grid below, such that AB = DC. Label your parallelogram clearly. [1]

(b) What is the area of the parallelogram, ABCD?




Ans: (b) _____ $cm^2$

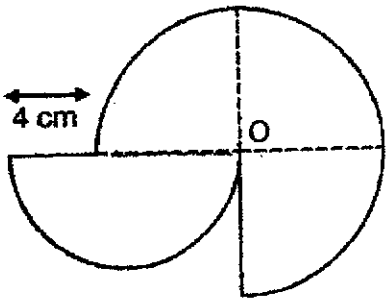


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5 The figure below shows a semicircle and 3 quarter circles. O is the centre of the 3 quarter circles. The diameter of the semicircle is 14 cm. Find the area of the figure. Use the calculator value of $\pi$ and give your answer correct to 1 decimal place.

Do not write in this space




Ans: _____ $cm^2$



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For questions 6 to 17, show your working clearly and write your answers in the space provided. The number of marks available is shown in brackets [ ] at the end of each question or part-question. (45 marks)

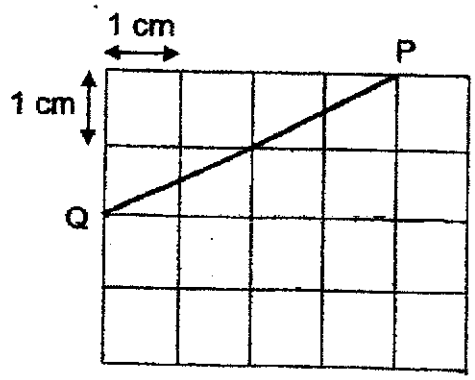
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6 The table below shows Amil's Mathematics marks for 2 tests. In which test did Amil do better in and by how many percent?

| Test | Marks Obtained | Total marks for the test |
|---|---|---|
| Test 1 | 45 | 60 |
| Test 2 | 63 | 90 |

Ans: Test _____, _____ [3]

7 In the grid below, draw triangle PQR, such that the area of triangle PQR is 9 $cm^2$. [3]



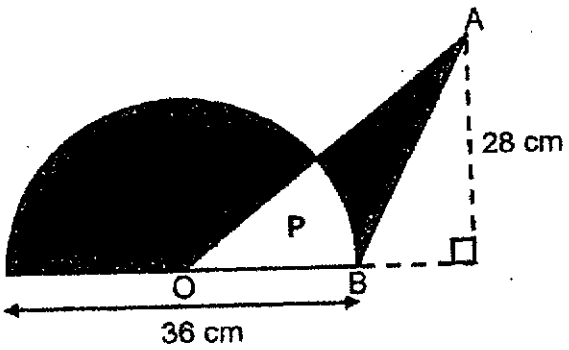



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8 The diagram below is made up of a semicircle and a triangle, OAB. The unshaded area, P, is 100 $cm^2$. Find the area of the shaded parts. (Take $\pi = 3.14$)




Ans: _____ [3]

9 The average of 6 consecutive numbers is 152.5. What is 10 less than the smallest number?

Ans: _____ [3]



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**10** During a sale, a shop offered a 20% discount on all its mobile phones. Ming chose a phone which cost $160 less than its usual price due to the discount given. He had to pay an additional 7% GST on the discounted price. How much did Ming pay for the mobile phone in the end?

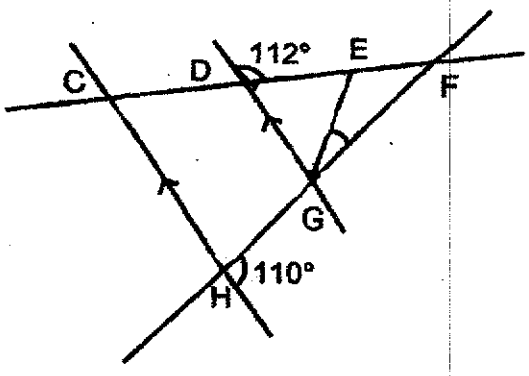
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Ans: _____ [3]

**11** In the diagram below, CDE and FGH are straight lines. DG = GE.

(a) Find ∠ DCH.

(b) Find ∠ EGF




Ans: (a) _____ [2]

(b) _____ [2]

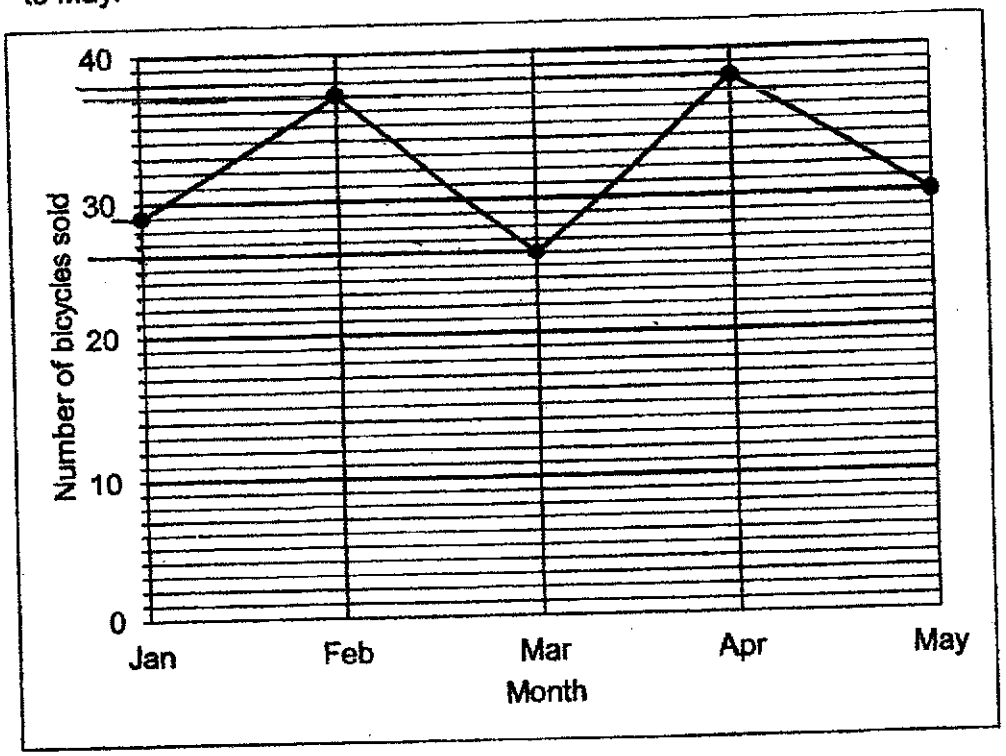


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12 The line graph below shows the number of bicycles sold from January to May.

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(a) What was the average number of bicycles sold per month?

(b) The average number of bicycles sold from January to June was 34.5. What was the number of bicycles sold in June?

Ans: (a)_____[2]

(b)_____[2]



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13 Arjun folded a circular piece of paper into half as shown in Figure 1. The resulting shape in Figure 2 has a perimeter of 36 cm. He then folded the figure further into halves twice, until he obtained Figure 4.

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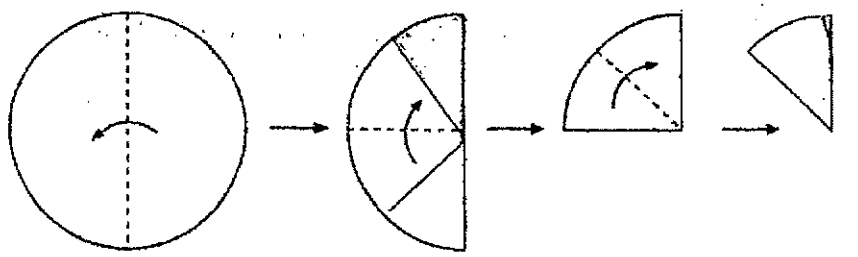


Figure 1 Figure 2 Figure 3 Figure 4

Figure 4 has a perimeter of 19.5 cm. Find the circumference of the original circular sheet of paper as seen in Figure 1. (Take $\pi = \frac{22}{7}$).

Ans: _____ [4]



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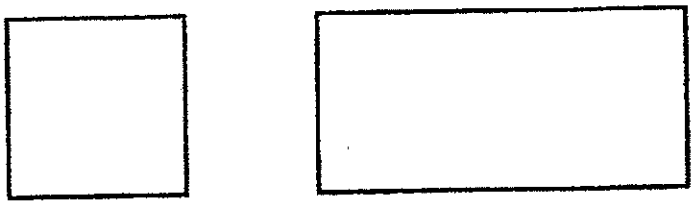
14 The perimeter of a square is $p$ cm. The side of the square is the same as the breadth of the rectangle, but it is 3 cm shorter than the length of the rectangle.

Do not write in this space

(a) What is the length of the square?

(b) What is the perimeter of the rectangle? (Express your answer in terms of $p$)

(c) If $p = 12$, what is the area of the rectangle?



Ans: (a) _____ [1]

(b) _____ [2]

(c) _____ [2]



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15 There were $\frac{2}{5}$ as many boys as girls in a school hall at first. After 30 girls and 20 boys left the school hall, 25% of the pupils remaining in the school hall were boys. What was the total number of boys and girls in the school hall at first?

Do not writ
in this spac

Ans: _____ [4]



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16 Haslima had a sum of money. She spent $35 on a belt and $\frac{4}{7}$ of the remainder on a pair of shoes. She was left with $\frac{1}{3}$ of the original sum of the money. How much money did Haslima have at first?

Do not write in this space

Ans: _____ [4]



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17 John drew a cube of sides 15 cm. He then drew another cuboid by increasing the length and height of the cube by 20%. What was the percentage increase in the volume of the new cuboid that he had drawn?

Do not write in this space

Ans: _____ [5]



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# ANSWER KEY

YEAR : 2021
LEVEL : PRIMARY 6
SCHOOL : MGS
SUBJECT : MATHEMATICS
TERM : MID-YEAR EXAM

## BOOKLET A (PAPER 1)

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| Q1 | 4 | Q2 | 3 | Q3 | 2 | Q4 | 3 | Q5 | 1 |
| Q6 | 2 | Q7 | 4 | Q8 | 2 | Q9 | 1 | Q10 | 3 |
| Q11 | 3 | Q12 | 1 | Q13 | 3 | Q14 | 4 | Q15 | 2 |

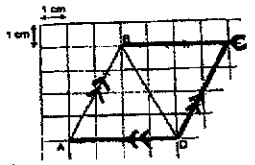
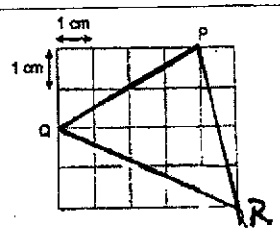
## BOOKLET B (PAPER 1)

| | | | |
|---|---|---|---|
| Q16 | 14cm – 1.5cm = 12.5cm | Q17 | $\frac{7}{9} \div 3 = \frac{7}{9} \times \frac{1}{3} = \frac{7}{27}$ |
| Q18 | $\frac{0.6}{100} = \frac{6}{1000} = 0.006$ | Q19 | M=105 – 58 = 47 |
| Q20 | < g+<h→360°-58°-90°=212°<br>< g → 212° ÷ 2 = 106° | Q21 | (d+3)cm+(d+3)cm+dcm=(3d+6)cm<br>(3d+6)cm=36cm<br>(3d)cm=36cm-6cm=30cm<br>D=30cm÷3 = 10cm |
| Q22 | 21u – 15u = 6u<br>6u = $24<br>1u = $24 ÷ 6 = $4<br>21u = $4 x 21 = $84 | Q23 | 1+3+1+3+1=9<br>24 ÷ 5 = 4R4<br>9 x 4 = 36<br>1 + 3 + 1 + 3 = 8<br>36 + 8 = 44 |
| Q24 | 530 ÷ $8 = 3R6<br>3 x 4 = 12 | Q25 | 16u – 7u = 9u<br>9u = $45<br>1u = $45 ÷ 9 = $5<br>16u = $5 x 16 = $80 |
| Q26 | 20% x 40% = 8%<br>100%→ $\frac{12}{8}$ x 100% = $150 | Q27 | 1 SA→ 7 x 7 - $\frac{1}{4} \times \frac{22}{7}$ x 7 x 7<br>=49 - $\frac{1}{2} \times \frac{11}{7}$ x 7 x 7<br>=49 – 38.5 = 10.5<br>10.5 x 4 = 42cm2 |
| Q28 | 5u → 60%<br>1u → 60 ÷ 5 = 12<br>3u → 12 x 3 = 36% | Q29 | < XYZ=(180°-98°)=82°<br>82° ÷2 = 41° |
| Q30 | a) True<br>b) False<br>c) True | | |



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**PAPER 2**

| | | | |
|---|---|---|---|
| Q1 | 5u = $26<br>1u = $26 ÷ 5 = $5.20<br>4u = $5.20 x 4 = $20.80 | Q2 | 1 second → 6ml<br>3600 second→6mlx3600<br>=21600ml = 21.6L |
| Q3 | 1000g ÷ 250g = 4<br>40g x 4 = 160g | Q4 | a)<br><br>b) $\frac{1}{2}$ x 4cm x 4cm = 8cm2<br>8cm2 x 2 = 16cm2 |
| Q5 | $\frac{3}{4}$ circle = $\frac{3}{4}$ x $\pi$ x 10 x 10 = 75 $\pi$<br>Semicircle = $\frac{1}{2}$ x $\pi$ x 7 x 7 = 24.5 $\pi$<br>Total = 24.5 $\pi$ + 75 $\pi$ = 312.58<br>312.58 ≈312.6cm2 | Q6 | Test 1 → $\frac{45}{60}$ x 100% = 75%<br>Test 2 → $\frac{63}{90}$ x 100% = 70%<br>75% - 70% = 5%<br>She did better in test 1 by 5% |
| Q7 |  | Q8 | 36cm ÷ 2 = 18cm<br>$\frac{1}{2}$ x 18cm x 28cm = 252cm2<br>252cm2 – 100cm2 = 152cm2<br>$\frac{1}{2}$ x $\pi$ x r x r = $\frac{1}{2}$ x 3.14 x 18cm x 18cm = 508.68cm2<br>508.68cm2 – 100cm2 =408.68cm2<br>408.68cm2 + 152cm2 =560.68cm2 |
| Q9 | 152.5 x 6 = 915<br>915 – (3 x 5) = 900<br>900 ÷ 6 = 150<br>Number → 150 – 10 = 140 | Q10 | 100%-20%=80%<br>20% → $160<br>1% → $160 ÷ 20 = $8<br>80% → $8 x 80 = $640<br>$640 x $\frac{107}{100}$ = $684.80 |
| Q11 | a) <DCH=180°-112°=68°<br>b) <EGF=180° –(110°+44°)=26° | Q12 | a) 29+37+26+38+30=160<br>160 ÷ 5 = 32<br>b) 34.5 x 6 = 207<br>207 – 160 = 47 |
| Q13 | 36cm ÷ 2 = 18cm (A+2B)<br>19.5cm x 2 = 39cm (4A+2B)<br>39cm – 18cm = 21cm<br>21cm ÷ 3 = 7<br>Circumference of Fig 1<br>= 2 x $\pi$ x r<br>= 2 x $\frac{22}{7}$ x 7cm = 44cm | Q14 | a) Sq → $\frac{p}{4}$ cm<br>b) pcm+3cm+3cm<br>=pcm+6cm<br>=(p+6)cm<br>c) 12cm÷4=3cm<br>3cm+3cm=6cm<br>6cmx3cm=180m2 |



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|---|---|---|---|
| Q15 | Boys : Girls<br>2u : 5u<br>-20 : -30<br>1p : 3p<br>1p = 2u - 20<br>3p - 5u - 30<br>3 x (2u - 20) = 5u - 30<br>6u - 60 = 5u - 30<br>6u - 5u = 60 - 30<br>1u = 30<br>7u = 30 x 7 = 210 | Q16 | $\frac{2}{9} \rightarrow 35$<br>$\frac{1}{9} \rightarrow 35 \div 2 = \$17.50$<br>$\frac{9}{9} \rightarrow 17.50 \times 9 = \$157.50$ |
| Q17 | Volume of cube → 15 x 15 x 15<br>= 3375<br>$\frac{20}{100}$ x 15 = 3<br>15 + 3 = 18<br>Volume of cuboid → 18 x 18 x 15<br>= 4860<br>Increase → 4860 – 3375 = 1485<br>Percentage→ $\frac{1485}{3375}$ x 100 = 44% | | |



END

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