Anglo-Chinese School
(Primary)
A Methodist Institution
(Founded 1886)

2021 SEMESTRAL ASSESSMENT 1
MATHEMATICS
PAPER 1 (BOOKLET A)
PRIMARY SIX

Name: _____ ( ) Class: Primary 6 ___

Date: 11 May 2021 Duration of Booklets A & B: 1 hour

INSTRUCTIONS TO CANDIDATES

1. This question paper consists of 8 printed pages, including the cover page.
2. Do not turn this page until you are told to do so.
3. Follow all instructions carefully.
4. Shade your answers on the Optical Answer Sheet (OAS) provided.
5. You are not allowed to use a calculator.

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Questions 1 to **10** carry 1 mark each. Question **11** to **15** carry 2 marks each. Make your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet (OAS). (20 marks)

1. Express six million, forty thousand, one hundred and one in numerals.

   (1) 6 040 011

   (2) 6 040 101

   (3) 6 400 011

   (4) 6 400 110

2. Which of the following fractions is closest to $\frac{1}{3}$?

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

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

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

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

3. Which one of the following is the most likely height of a dining table?

   (1) 72 m

   (2) 7.2 m

   (3) 72 cm

   (4) 7.2 cm

4. Find the value of $7p + 8 - 4p + 3$ when $p = 4$.

   (1) 17

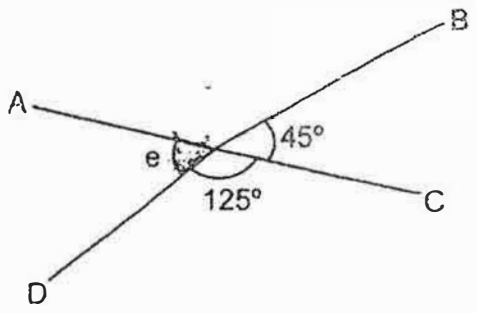
   (2) 23

   (3) 33

   (4) 49

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5. In the figure below, AC is a straight line. Find $\angle e$.



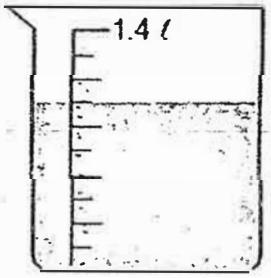
(1) 45°

(2) 55°

(3) 80°

(4) 170°

6. The jug below shows the amount of apple juice in a jug at first.



Alice drank half the amount of apple juice. How much apple juice did Alice drink?

(1) 350 mℓ

(2) 490 mℓ

(3) 700 mℓ

(4) 980 mℓ

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7. Darus watched a movie that lasted 125 minutes. The movie ended at 12 35. What time did the movie start?

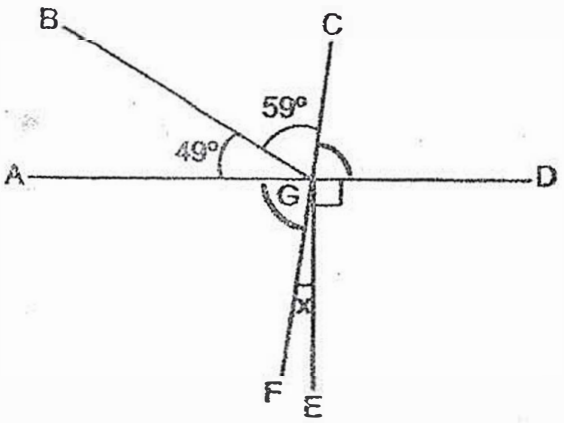
(1) 10 30

(2) 10 40

(3) 11 10

(4) 10 10

8. In the figure below, AGD and CGF are straight lines. $\angle BGA = 49°$ and $\angle BGC = 59°$. Find $\angle x$.



(1) 10°

(2) 18°

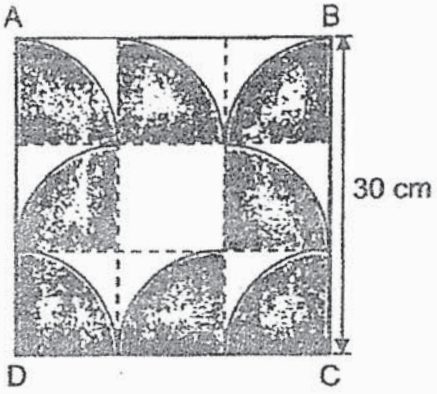
(3) 31°

(4) 72°

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9. In the figure below, ABCD is a square with length of 30 cm and 8 identical quarter circles. Find the total area of the unshaded parts.

Take $\pi = 3.14$.



(1) 272 cm²

(2) 586 cm²

(3) 774.4 cm²

(4) 837.2 cm²

10. The first 14 numbers of a number pattern are given below.

9 , 1 , 0 , 2 | 9 , 1 , 0 , 2 | 9 , 1 , 0 , 2 | 9 , 1 , ...

1st 14th

What is the 793rd number?

(1) 1

(2) 2

(3) 0

(4) 9

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11. At a camp, there was 4 instructors for every 15 children. The number of girls was $\frac{1}{3}$ the total number of children. There were 100 more boys than girls.

How many instructors were there at the camp?

(1) 20

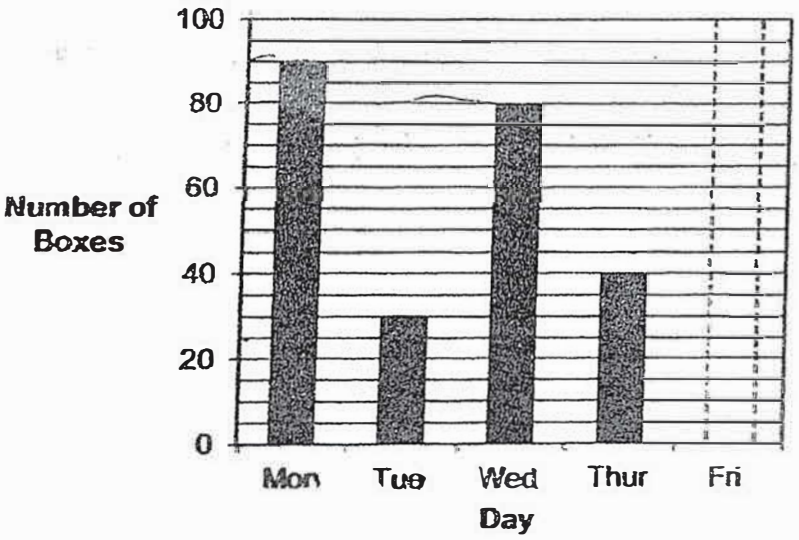
(2) 80

(3) 300

(4) 400

12. The graph below shows the number of boxes of biscuits collected during a food donation drive. The number of boxes collected on Friday was 25% of the total number of boxes collected from Monday to Wednesday.

How many boxes of biscuits were collected on Friday?



(1) 50

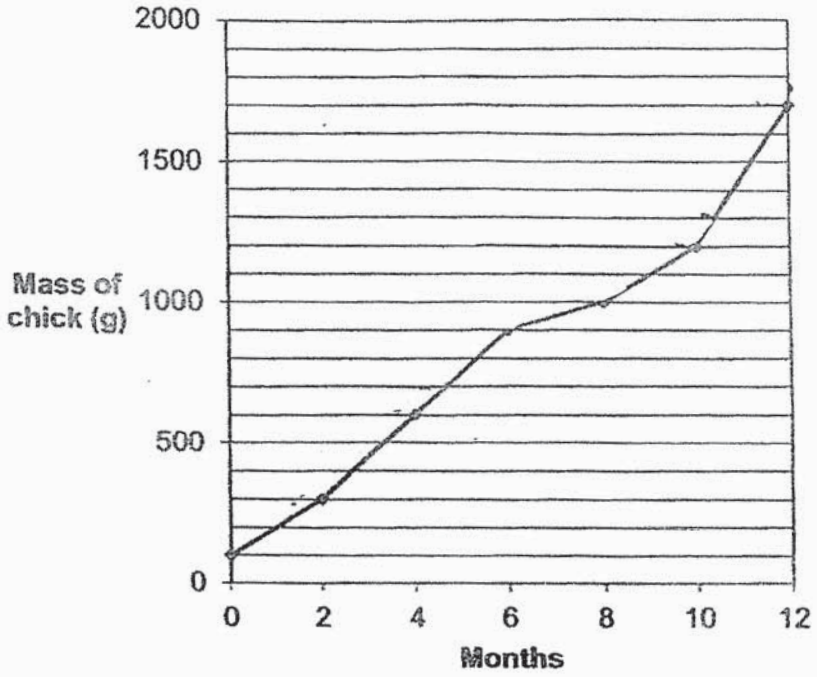
(2) 60

(3) 250

(4) 300

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13. The line graph below shows the increase in a newly hatched chick's mass in its first 12 months. In which time period did the mass of the chick increase the least?



(1) Month 0 to Month 2

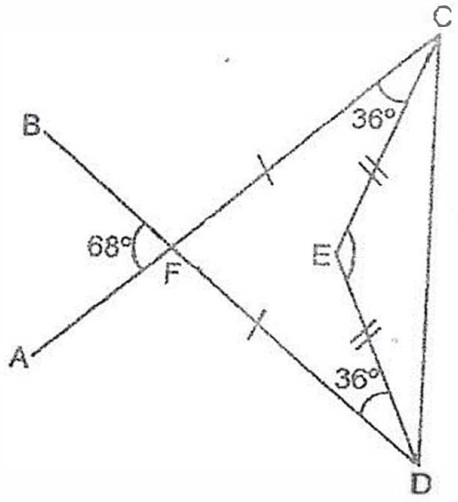
(2) Month 4 to Month 6

(3) Month 6 to Month 8

(4) Month 10 to Month 12

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14. In the figure below, CED and CFD are isosceles triangles. AFC and BFD are straight lines. $\angle FCE = \angle FDE = 36°$. $\angle BFA = 68°$. Find $\angle CED$.



(1) 108°

(2) 112°

(3) 136°

(4) 140°

15. Darren spent ~~20%~~ of his money on a plate of noodles. He used the rest of his money to buy a pizza and a roast duck. The pizza cost $18 more than the noodles. The roast duck cost $51. Find the cost of the pizza.

(1) $23

(2) $41

(3) $69

(4) $74

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Anglo-Chinese School (Primary)

A Methodist Institution
(Founded 1886)

2021 SEMESTRAL ASSESSMENT 1
MATHEMATICS
PAPER 1 (BOOKLET B)
PRIMARY SIX

Name: _____ ( ) Class: Primary 6 ___

Date: 11 May 2021 Duration of Paper Booklets A & B: 1 hour

_____
Parent's/Guardian's signature

INSTRUCTIONS TO CANDIDATES

1. This question paper consists of **10** printed pages, including the cover page.
2. Do not turn this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. You are not allowed to use a calculator.

Paper 1 **Booklet A. Multiple-Choice Questions**	**20**	
Paper 1 **Booklet B. Short Answers: Part 1**	**5**	
Paper 1 **Booklet B. Short Answers: Part 2**	**20**	
Total Marks	**45**	

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Questions 16 to 20 carry 1 mark each. Write your answers in the spaces provided. Give your answers to the units stated and to its simplest form whenever necessary. (5 marks)

16. Use all the digits 3, 5, 6, and 0 to form the number closest to 6000.

Answer: _____

17. Express 0.4% as a fraction.

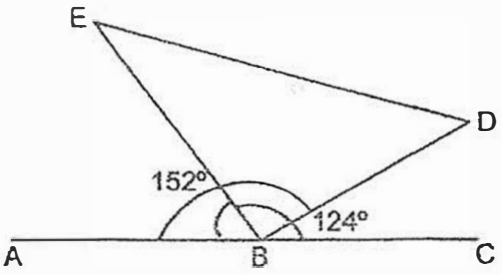
Answer: _____

18. A faulty clock loses $\frac{1}{6}$ min every hour. How many hours will it take to lose $\frac{2}{3}$ min?

Answer: _____ h

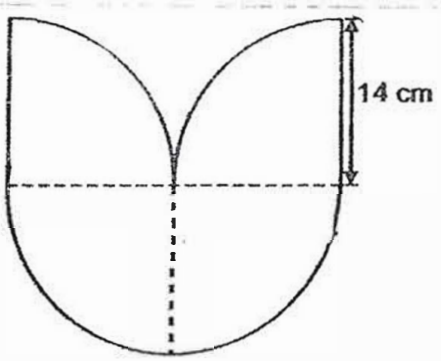
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19. In the figure below, ABC is a straight line. $\angle ABD = 152°$ and $\angle CBE = 124°$. Find $\angle EBD$.



Answer: _____ °

20. The figure below shows 4 identical quarter circles. The radius of each quarter circle is 14 cm. Find the perimeter of the figure. Take $\pi = \frac{22}{7}$.



Answer: _____ cm

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Questions 21 to 30 carry 2 marks each. Show all mathematical statements clearly in the space below each question and write your answers in the spaces provided. Give your answers to the units stated and to its simplest form whenever necessary. (20 marks)

21. Kayden completed his Mathematics, Science and Art homework in y hours. He took the same amount of time to complete his Mathematics and Science homework. He took 10 minutes longer to complete his Art homework than mathematics. How many minutes did he take to complete his Mathematics homework?

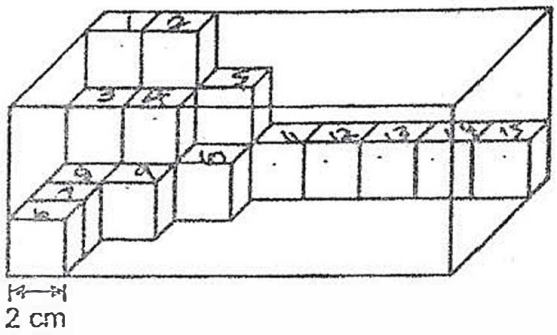
Answer: _____ min

22. There are two 2-digit numbers. One is 6 times the other. They have exactly five common factors. Three of the common factors are 1, 2 and 4. What are the two 2-digit numbers?

Answer: _____ and _____

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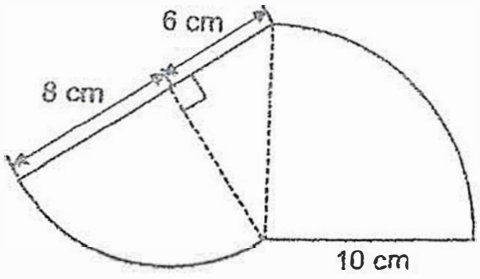
23. The figure shows a rectangular glass tank partly filled with 2-cm cubes.
Jane poured water into the tank to fill it to the brim. How many millilitres of water did Jane pour into the tank?



Answer: _____ml

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24. The figure below shows a right-angled triangle and 2 quarter circles. Find the area of the figure. Express your answer in terms of π.



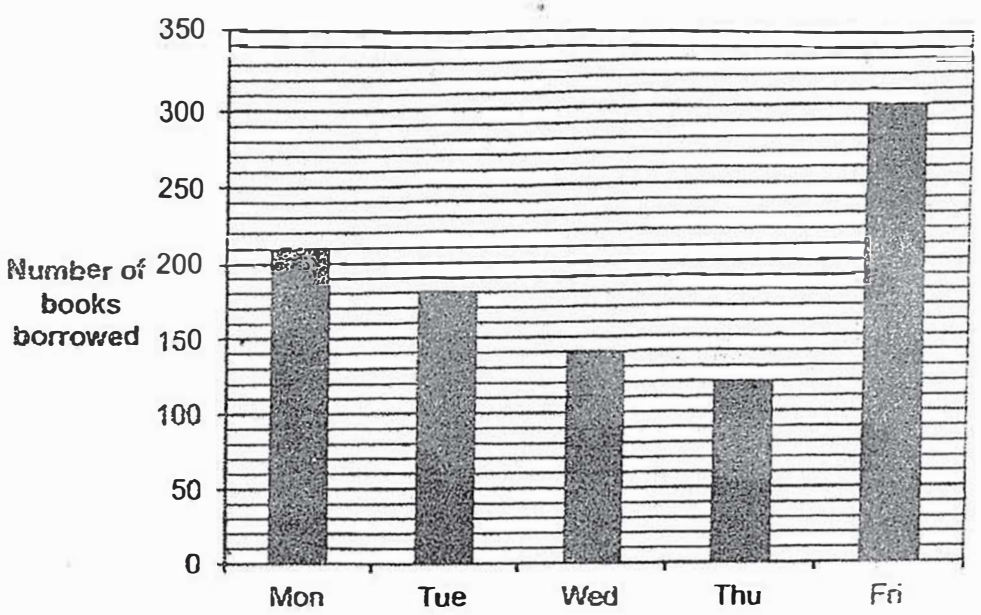
Answer: _____ cm^2

25. Julian and Mandy shared 50 shells equally. After Julian gave some shells to Mandy, the ratio of Julian's shells to Mandy's shells was 3 : 7. How many shells did Julian give to Mandy?

Answer: _____

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26. The bar graph shows the number of books borrowed from the library from Monday to Friday.



(a) What fraction of the books borrowed from the library was on Friday? Give your answer in the simplest form.

(b) The average number of books borrowed on Thursday and Friday was 20 less than the average number of books borrowed on Saturday and Sunday. Write down one possible set of values for the number of books borrowed on Saturday and Sunday

Answer: (a) _____

(b) _____

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27. The table below shows the rate of parking charges in a carpark.

Parking Charges	
First hour	$2.20
Every subsequent $\frac{1}{2}$ an hour or part thereof	$0.80

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

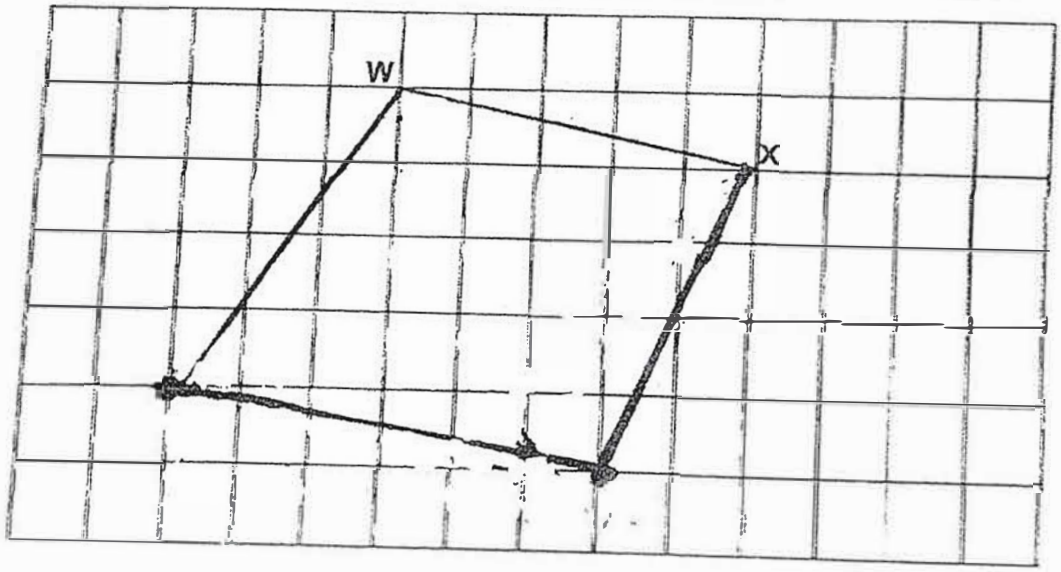
	Statement	True	False	Not possible to tell
(a)	Nurul parked her car in the carpark from 2.40 p.m. to 7 p.m. and paid $7.80.			
(b)	Mr Tan paid exactly $9.40. He parked his car in the carpark for $5\frac{1}{2}$ h.			

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28. Kenneth and Charmaine shared a sum of money. The amount of money Charmaine had was $\frac{1}{4}$ of what Kenneth had. After Kenneth spent $\frac{1}{3}$ of his money, he still had $85 more than Charmaine.
What was the sum of money at first?

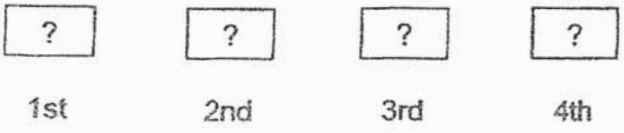
Answer: $ _____

29. Draw and label rhombus WXYZ such that WX = 5.4 cm and ∠ZWX = 113°.



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30. 4 numbers are displayed in a row. The average of the first two numbers is 8, the average of the 2nd and 3rd number is 9 and the average of the 3rd and 4th number is 12. Find the average of the 1st and 4th number.



Answer: _____

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Anglo-Chinese School (Primary)

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2021 SEMESTRAL ASSESSMENT 1
MATHEMATICS
PAPER 2
PRIMARY SIX

Name: _____ ( ) Class: Primary 6 ___

Date: 11 May 2021 Duration of Paper 2: 1 hour 30 minutes

_____
Parent's/Guardian's signature

INSTRUCTIONS TO CANDIDATES

1. This question paper consists of 17 printed pages, including the cover page.
2. Do not turn this page until you are told to do so.
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4. Answer all questions.
5. You are allowed to use a calculator.

Paper 2 Section A. Short Answers	10	
Paper 2 Section B. Problem Sums	45	
Total Marks	55	

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Questions 1 to 5 carry 2 marks each. Show your mathematical statements clearly in the space provided for each question and write your answers in the spaces provided. Give your answers to the units stated and to its simplest form whenever necessary. (10 marks)

1. A box contains red, blue and green highlighters. $\frac{1}{7}$ of them are red highlighters. $\frac{1}{2}$ of the remainder are blue highlighters and the rest are green highlighters. There are 273 green highlighters.

   What is the total number of highlighters in the box?

Answer: _____

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2. The table below shows the amount of coffee powder sold in a certain week.

Day	Amount of coffee powder sold
Monday	1 kg 200 g
Tuesday	?
Wednesday	?
Thursday	?
Friday	1070 g
Saturday	0.95 kg
Sunday	?
Total	8 kg 8 g

The total amount of coffee powder sold for the week was 8 kg 8 g. The amount of coffee powder sold on Tuesday and Thursday is the same. The amount of coffee powder sold on Wednesday is twice that on Thursday. The amount of coffee powder sold on Sunday is half that on Tuesday. What is the amount of coffee powder sold on Sunday?

Answer: _____ kg

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3. The ratio of Derek's age to his father's age is 1 : 3 now.
In 5 years' time, the ratio of Derek's age to his father's age will be 2 : 5.
What is his father's age now?

Answer: _____

4. The table below shows the number of children and adults who ate at 4 restaurants. Each restaurant charged $12 for a child buffet and $22 for an adult buffet.

Restaurant	Number of children	Number of adults
W	12	20
X	18	17
Y	14	15
Z	13	19

(a) Which of the 4 restaurants collected the most money?

(b) What was the average amount of money collected from the 4 restaurants?

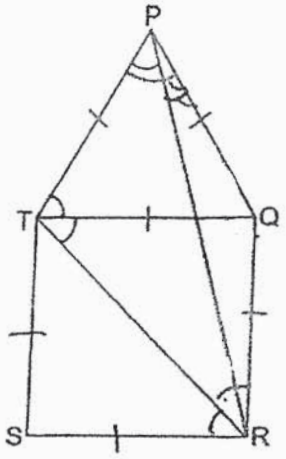
Answer: (a) Restaurant _____ [1]

(b) $ _____ [1]

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5. In the figure below, QRST is a square and PQT is an equilateral triangle.

Find ∠RPT.

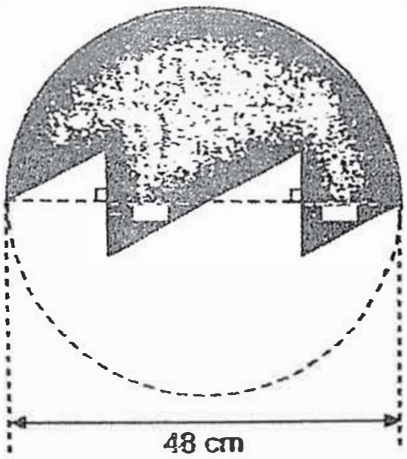


Answer: _____ °

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For questions **6** to **17**, show your steps clearly in the space provided for each question and write your answers in the spaces provided.
For questions which require units, give your answers in the units stated.
The number of marks available is shown in brackets [ ] at the end of each question or part-question. (45 marks)

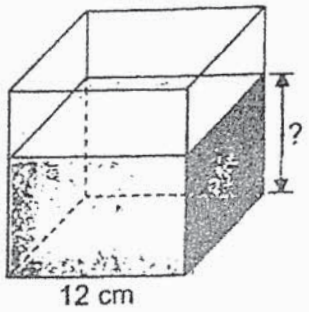
6. The figure below is made up of two identical semicircles and 4 identical right-angled triangles. The perimeter of each right-angled triangle is 36 cm The diameter of each semicircle is 48 cm. Find the perimeter of the shaded part. Take $\pi = 3.14$.



Answer: _____ [3]

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7. A cubical tank of edge 12 cm was partially filled with water. After another 432 cm^3 of water was poured in, the container was completely filled. What was the height of the water level at first?



Answer: _____ [3]

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8. A grocer bought 50 boxes of oranges. Each box contained 72 oranges. He packed all the oranges equally into bags. There were k oranges in each bag and he sold 320 bags.

(a) How many bags of oranges did he have left?
Express your answer in terms of k in the simplest form.

(b) The grocer sold the remaining bags of oranges at $6 each.
If k = 9, how much did he collect from selling the remaining bags?

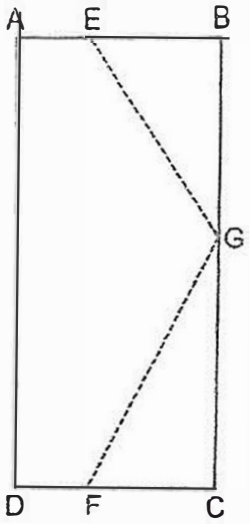
Answer: (a)_____ [2]

(b)_____ [1]

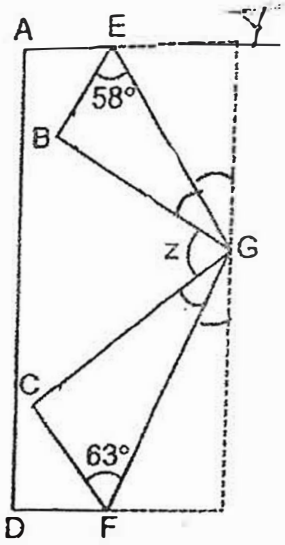
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9. A rectangular piece of paper ABCD is folded to form the figure below.

Find $\angle z$.



Before folding



After folding

Answer: _____ [3]

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10. Elon and Mark shared a box of coins in the ratio 8 : 5. After Elon spent 51 coins and Mark bought another 42 coins, they had an equal number of coins. How many coins were there in the box at first?

Answer: _____ [3]

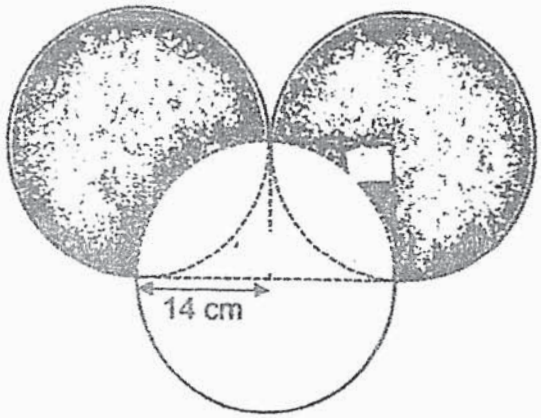
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11. In 2019, the average number of boys in an enrichment class was 28. In 2020, 3 new enrichment classes of 37 boys each were added to the school. The average number of boys in all the classes increased to 33. Find the total number of boys enrolled in the school for the year 2020.

Answer: _____ [4]

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12. The figure below, is made up of 3 identical circles. The radius of each circle is 14 cm. Take $\pi = \frac{22}{7}$.



(a) Find the perimeter of the shaded figure.

(b) Find the total area of the shaded parts.

Answer: (a)_____ [1]

(b)_____ [3]

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13. At first, the amount of money Bryant had was ~~60%~~ the amount of money Michael had. They went for lunch together and Bryant paid for ~~25% of~~ the bill and Michael paid for the rest. After paying for the lunch, Bryant had $56 left and Michael had ~~25%~~ of his money left.
How much did they pay for lunch?

Answer: _____ [4]

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14. The cost of a cookie was $\frac{1}{2}$ the cost of a sandwich and a muffin cost twice that of a sandwich. Mr Lee spent $\frac{4}{7}$ of his money on 16 cookies and 12 sandwiches. He used $\frac{4}{5}$ of his remaining money to buy 5 muffins and more sandwiches.

(a) How many more cookies can Mr Lee buy with the rest of his money?

(b) How many sandwiches did Mr Lee buy in all?

Answer: (a)_____ [1]

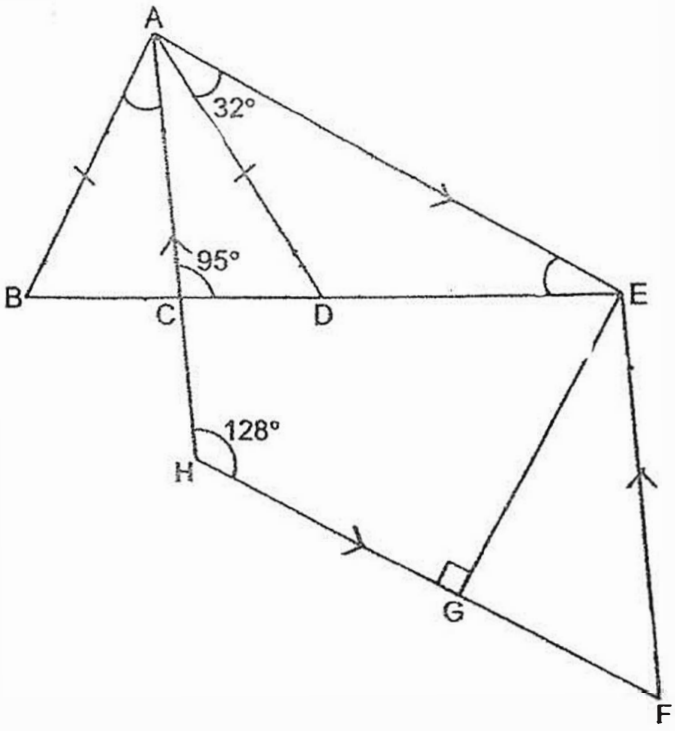
(b)_____ [4]

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15. In the figure below, AEFH is a parallelogram and ABD is an isosceles triangle. ACH and BCDE are straight lines. AB = AD. ∠ACD = 95°, ∠DAE = 32° and ∠AHG = 128°

(a) Find ∠AED.

(b) Find ∠BAC.



Answer: (a)_____ [2]

(b)_____ [2]

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16. On Saturday, a shop sold identical jerseys at $39 each. On Sunday, the price of the jersey was reduced. As a result, the number of jerseys sold increased by ~~20%~~ $\frac{1}{2}$ and the amount of money collected increased by ~~25%~~ $\frac{1}{4}$.

(a) Find the price of a jersey sold on Sunday.

(b) Find the percentage decrease in the price of a jersey sold on Sunday.

Answer: (a)_____ [2]

(b)_____ [2]

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17. Aisha had some twenty-cent coins and fifty-cent coins.

The number of fifty-cent coins was $\frac{3}{5}$ the total number of coins.

After Aisha exchanged 20 fifty-cent coins for twenty-cent coins, the number of twenty-cent coins and fifty-cent coins became the same.

(a) What was the total value of all the coins at first?

(b) What was the total number of coins Aisha had at the end?

Answer: (a)_____ [3]

(b)_____ [2]

End of Paper 2

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YEAR : 2021
LEVEL : PRIMARY 6
SCHOOL : ACS (PRIMARY)
SUBJECT : MATHEMATICS
TERM : MID-YEAR EXAM

BOOKLET A

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

BOOKLET B (PAPER 1)

Q16	6035
Q17	$1\% = \frac{1}{100}$ $0.1\% = \frac{1}{1000}$ $0.4\% = \frac{4}{1000} = \frac{1}{250}$
Q18	$\frac{2}{3} \div \frac{1}{6} = \frac{2}{3} \times \frac{6}{1}$ $= \frac{12}{3}$ =4h
Q19	$< ABE = 180° - 124° = 56°$ $< DBC = 180° - 152° = 28°$ $< EBD = 180° - 28° - 56° = 96°$
Q20	88 + 14 + 14 = 116cm
Q21	Y hours = 60y mins (60y – 10) ÷ 3 $= (\frac{60y - 10}{3})$ min

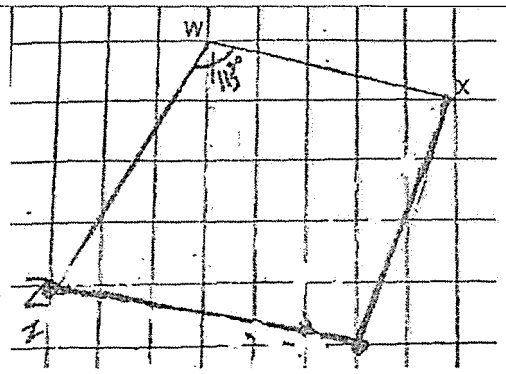
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Q22	16 and 96
Q23	2 + 5 + 15 = 22 8 x 5 x 3 = 120 120 – 22 = 98 98 x 8 = 784ml
Q24	$\frac{1}{2} \times \frac{6}{1} \times \frac{8}{1} = \frac{24}{1}$ π x 10 x 10 = 100 π $\frac{100\pi}{4}$ = 25 π π x 8 x 8 = 64 π $\frac{64\pi}{4}$ = 16 π 16 π + 25 π + 24 = (41 π + 24) cm2
Q25	$\frac{50}{10}$ = 5 5 x 3 = 15 5 x 7 = 35 25 – 15 = 10
Q26	a) 210 + 180 + 140 + 120 + 300 = 950 $\frac{300}{950} = \frac{6}{19}$ b) 300 + 120 = 420 $\frac{420}{2}$ = 210 210 + 20 = 230 230 x 2 = 460 ANS = 230 , 230
Q27	a) TRUE b) Not possible to tell

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Q28	$\frac{1}{3}$ x 12u = 4u 12u – 4u = 8u 8u – 3u = 5u 5u = 85 15u = 85 x 3 =$255
Q29	
Q30	16 + 18 + 24 = 58 58 – 18 – 18 = 22

PAPER 2

Q1	3u = 273 1u = $\frac{273}{3}$ 1u = 91 7u = 91 x 7 =637
Q2	8kg8g = 8008g 1kg200g = 1200g 0.95 = 950g 8008 – 1200 – 950 – 1070 = 4788 $\frac{4788}{9}$ = 532 532g = 0.532kg

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Q3	(2u x 5) – (3u x 3) = 1u 5 years = 1u 5 x 9 = 9u 45 = 9u ANS: 45 years old
Q4	a) X b) 584 + 590 + 498 + 574 = 2246 $\frac{2246}{4}$ = $561.5
Q5	$<$ RPQ + $<$ PRQ = 180° - 90° - 60° = 30 ° $<$ RPQ = $\frac{30°}{2}$ = 15° $<$ RPT = 60° - 15° = 45°
Q6	$\frac{1}{2}$ x 3.14 x 48 = 7536 $\frac{48}{4}$ = 12 (36 -12) x 4 = 96 75.36 + 96 = 171.36
Q7	432 ÷ 12 ÷ 12 = 3 12 – 3 = 9cm
Q8	a) 72 x 50 = 3600 3600 ÷ k – 320 $= \frac{3600}{k}$ - 320 $ANS: (\frac{3600}{k} - 320)$ oranges b) 3200 ÷ 9 = 400 400 – 320 = 80 80 x 6 = $480
Q9	$<$ CGF = 180° - 90° - 63° = 27° $<$ BGE = 180° - 90° - 58° = 32° $<$ CGX = 27° x 2 = 54° $<$ BGY = 32° x 2 = 64° $<$ Z = 180° - 54° - 64° = 62°
Q10	8u – 51 = 5u + 42 8u – 5u = 42 + 51 3u = 93 1u = 93 ÷ 3 1u = 31 13u = 31 x 13 13u = 403

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Q11	5 x 37 = 185 5 x 28 = 140 185 – 140 = 45 33 – 28 = 5 $\frac{45}{5}$ = 9 9 x 33 = 297
Q12	a) 14 + 14 = 28 P of 2C = $\frac{22}{7}$ x 28 x 2 = 176cm b) Ar of q = $\pi r2$ x $\frac{1}{4}$ = $\frac{22}{7}$ x 14 x 14 x $\frac{1}{4}$ = 154 Ar of sq = 14 x 14 = 196 196 – 154 = 42 196 – 42 – 42 = 112 Ar of Cir = $\pi r2$ = $\frac{22}{7}$ x 14 x 14 = 616 616 – 112 = 504 504 x 2 = 1008cm2
Q13	4u x 5 = 20u 20u – 5u = 15u 75% of bill = 15u 25% of bill = 15u ÷ 3 = 5u 4u x 3 = 12u 12u – 5u = 7u 56 = 7u 56 ÷ 7 = 1u 8 = 1u 100% of bill = 15u + 5u = 20u 8 x 20 = 20u 160 = 20u ANS: $160

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Q14	a) 5u x 4 = 20u 16 x 1 = 16 12 x 2 = 24 16 + 24 = 40 20u = 40p 1u = 40 ÷ 20p 1u = 2p 3u = 2p x 3 3u = 6p ANS: 6 cookies b) 6p ÷ 1p = 6 5M = 4p x 5 = 20p 12u = 12 x 2p 12u = 24p 24p – 20p = 4p 4p ÷ 2p = 2 12 + 2 = 14 ANS: 14 sandwiches
Q15	a) $<AED = 180° - 115° - 32° = 33°$ b) $< BAC = 180° - 85° - 65° = 30°$
Q16	a) 100 x 39 = 3900 $\frac{125}{100}$ x 3900 = 4875 $\frac{4875}{150}$ = 32.5 ANS : $3250 b) 39 – 32.5 = 6.5 $\frac{6.5}{39}$ x 100 = $16\frac{2}{3}$ %
Q17	a) 1u→20¢ + 50¢ = 70¢ 50¢ →(3x70) x 0.5 = 105 20¢ →(2x70) x 0.2 = 28 105 + 28 = 133 b) (4x70) + 50 + 50 =380

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