METHODIST GIRLS' SCHOOL (PRIMARY)

Founded in 1887



END-OF-YEAR EXAMINATION 2021 PRIMARY 5 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.

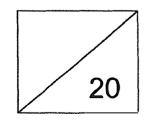
Shade your answers in the Optical Answer Sheet (OAS) provided.

The use of calculators is <u>NOT</u> allowed.

Name: _____()

Class: Primary 5.____

Date: 28 October 2021



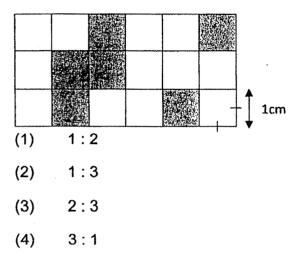
This booklet consists of $\underline{8}$ printed pages including this page.

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)

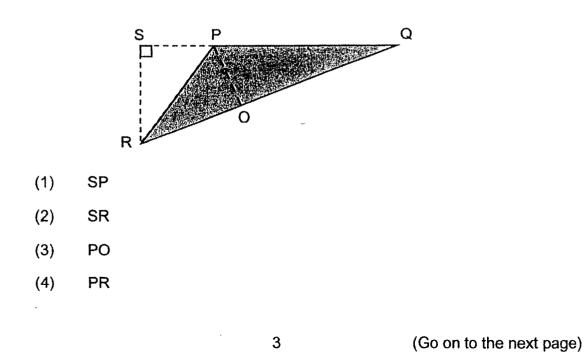
1 There were 314 089 spectators at a tennis match last year. Express this number to the nearest thousand.

- (1) 300 000
- (2) 310 000
- (3) 314 000
- (4) 315 000
- 2 Express 1 $\frac{2}{5}$ as a decimal.
 - (1) 1.25
 - (2) 1.4
 - (3) 1.5
 - (4) 1.52
- 3 What is the value of $\frac{2}{7} \times \frac{3}{7}$?
 - (1) $\frac{6}{49}$
 - (2) $\frac{6}{14}$
 - (3) $\frac{6}{7}$
 - (4) $\frac{5}{7}$

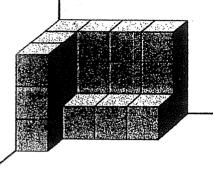
- 4 What percentage of 24 is 12?
 - (1) 0.5%
 - (2) 2%
 - (3) 50%
 - (4) 200%
- 5 What is the ratio of the number of shaded 1-cm squares to the total number of 1-cm squares?



6 In the figure below, PQ is the base of the triangle PQR and _____ is its height.



7 The solid below is built using 1-cm cubes. What is the volume of the solid in cubic centimetres?



- (1) 14 cm³
- (2) 15 cm^3
- (3) 19 cm^3
- (4) 21 cm^3

8 What is the value of 0.14 × 50?

- (1) 0.7
- (2) 7
- (3) 70
- (4) 700

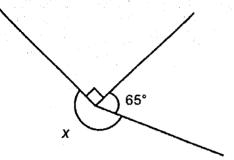
9 Which of the following is the same as 8050 ml?

- (1) 8 l 5 ml
- (2) 8 l 50 ml
- (3) 80 l 5 ml
- (4) 80 l 50 ml

4

(Go on to the next page)

10 The figure below is not drawn to scale. Find $\angle x$.

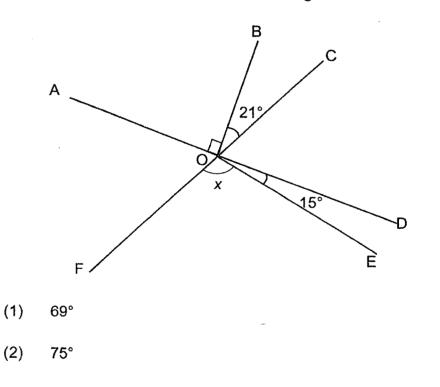


- (1) 155°
- (2) 205°
- (3) 270°
- (4) 295°
- **11** Find the value of $32 \div (8 4) \times 2 + 5$.
 - (1) 5
 - (2) 9
 - (3) 21
 - (4) 56

12 Lisa wanted to buy a handbag that cost \$40. What would be the amount she needs to pay for the handbag including 7% GST?



- (1) \$2.80
- (2) \$37.20
- (3) \$42.80
- (4) \$47.00
- **13** In the figure below, AOD and FOC are straight lines. Find $\angle x$.

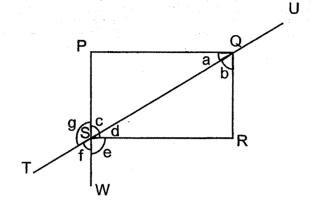


- (3) 96°
- (4) 111°

6

14 In the figure below, PQRS is a rectangle. TU and PW are straight lines.

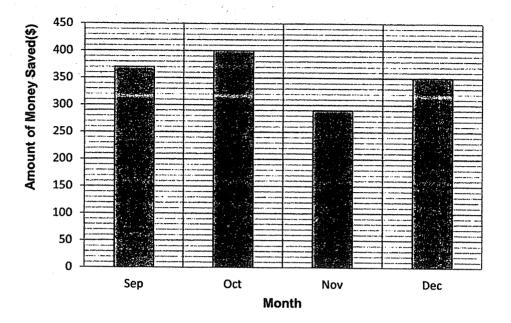
Which of the following statements are **false**?



- (1) ∠a = ∠b
- (2) ∠c = ∠f
- (3) $\angle g = \angle d + \angle e$
- (4) $\angle d + \angle f = 90^{\circ}$

15 Mr Tan has a fixed salary every month.

Every month, he spends some amount from his salary and saves the rest. The graph shows the amount of money he saves each month.



In which month did he spend the most?

- (1) Sep
- (2) Oct
- (3) Nov
- (4) Dec

(Go on to Booklet B)

8

METHODIST GIRLS' SCHOOL (PRIMARY)

Founded in 1887



END-OF-YEAR EXAMINATION 2021 PRIMARY 5 **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.

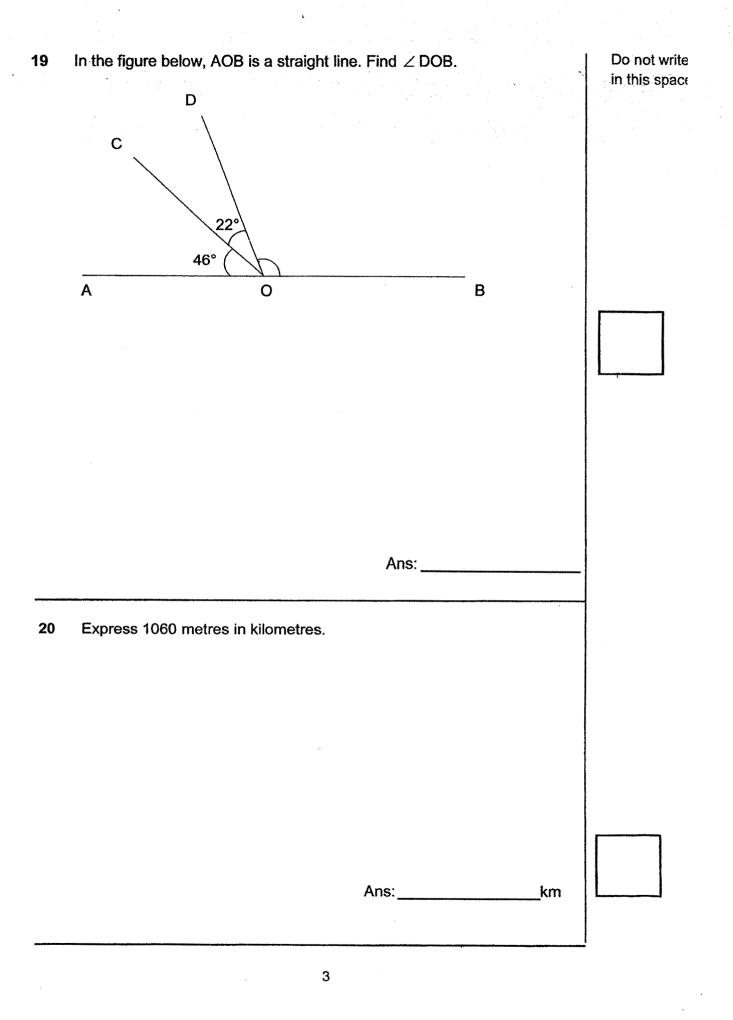
Name: ()

Primary 5.____ Class:

Date:	28 October 2021	Paper 1 Booklet A	/ 20
		Paper 1 Booklet B	/ 25
		Paper 2	/ 55
Parent's	Signature:	TOTAL	/ 100

This booklet consists of **8** printed pages including this page.

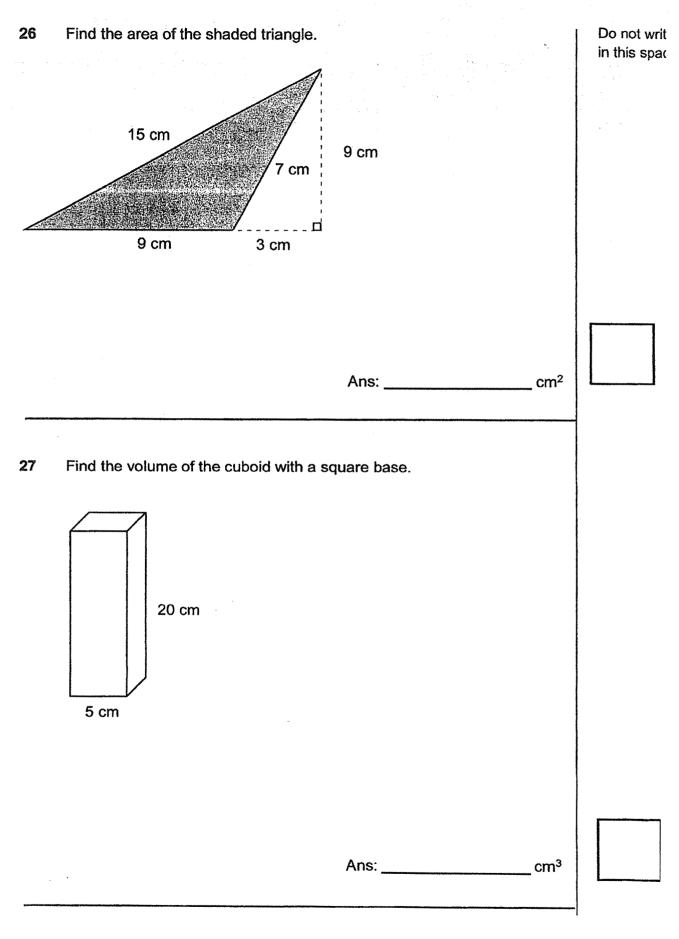
	tions 16 to 20 carry 1 mark each. Write your answers in the spaces ded. For questions which require units, give your answers in the units d. (5 marks)	Do not write in this space
16	Write 4 500 809 in words.	
Ans:		
17	Find the value of $\frac{2}{3} + \frac{4}{7}$.	
	Give your answer as a mixed number in the simplest form.	
	Ans:	
18	Jimmy has 200 marbles. 40 of the marbles are red. What percentage of the marbles are red?	
	~	
	Ans:%	

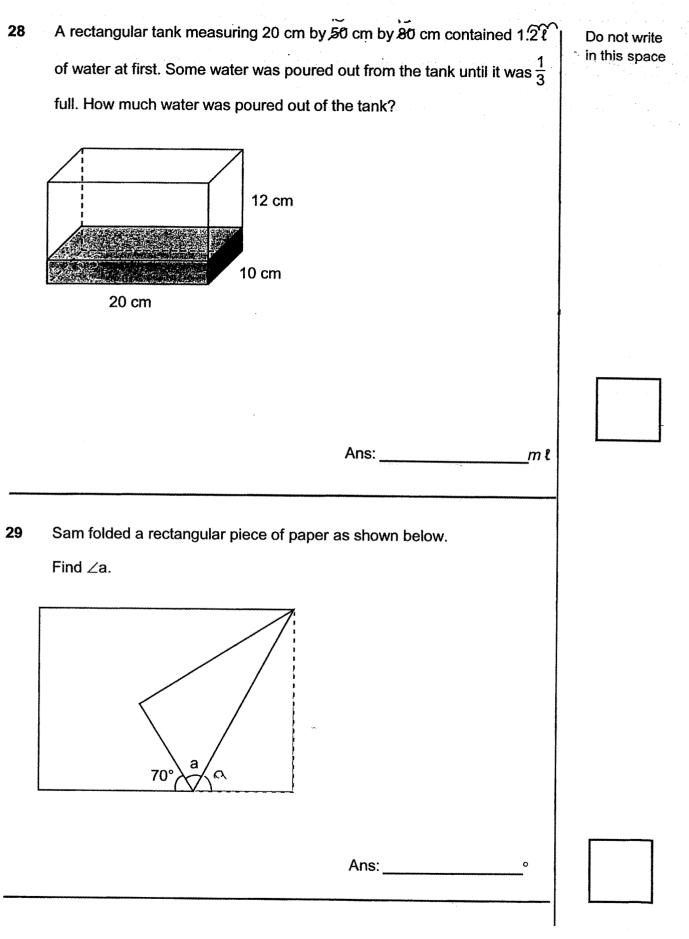


your	stions 21 to 30 carry 2 marks each. Show your working clearly and write answers in the spaces provided. For questions which require units, give answers in the units stated. (20 marks)	Do not write in this space
21	There were 450 spectators at a soccer match. $\frac{3}{5}$ of them were adults	
	and the rest were children. How many children were at the match?	
	Ans:	
22	Make the greatest sum by placing the following 5 digits in each of the boxes below. All digits must be used once only. 4 6 7 5 8	
	Ans:	

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٠		
23	Jane has 90 stickers and Renee has 150 stickers. What is the ratio of	Do not write
	the number of stickers Jane has to the number of stickers Renee has?	in this space
	Express the ratio in its simplest form.	
	Ans:	
	All3.	L]
24	A roll of ribbon is made up of white, grey and black segments. Each	
	segment is 1 cm long. The segments follow a repeated colour pattern as	
art	shown below.	
	A piece of ribbon 45 cm long is cut from the start of the roll. In that piece,	
	how many grey segments are there?	
		1
	Ans.	
	Ans:	
	Ans:	
	A printer prints 80 pages in 4 minutes. If two identical printers start	
	A printer prints 80 pages in 4 minutes. If two identical printers start printing at the same time, how many minutes will it take to print a total	
25	A printer prints 80 pages in 4 minutes. If two identical printers start printing at the same time, how many minutes will it take to print a total of 480 pages?	
25	A printer prints 80 pages in 4 minutes. If two identical printers start printing at the same time, how many minutes will it take to print a total	
25	A printer prints 80 pages in 4 minutes. If two identical printers start printing at the same time, how many minutes will it take to print a total of 480 pages?	
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25	A printer prints 80 pages in 4 minutes. If two identical printers start printing at the same time, how many minutes will it take to print a total of 480 pages?	





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The line graph below shows the amount of food thrown away at a 30 café from January to May.

40 35 30 25 Amount of food thrown 20 away (kg) 15 10 5 0 Jan Feb Mar Apr May Month What was the average amount of food thrown away each month? Ans: kg **END OF PAPER**

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Do not write in this space

METHODIST GIRLS' SCHOOL (PRIMARY)

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END-OF-YEAR EXAMINATION 2021 PRIMARY 5 MATHEMATICS

PAPER 2

Duration: 1h 30 min

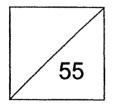
INSTRUCTIONS TO CANDIDATES

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 5.____

Date: 28 October 2021



Parent's Signature:

This booklet consists of 13 printed pages including this page.

s, give your answers in the units stated. (10 marks)	
Each box of apples contained 25 apples. Adam sold each apple for \$0.70. How much money did he collect from the sale of 8 such boxes?	
Ans: \$	
Find the values of A and B. A: 4: 12 = 6: B: 9	
Ans: A = B =	
	\$0.70. How much money did he collect from the sale of 8 such boxes? Ans: \$ Find the values of A and B. A: 4 : 12 = 6 : B : 9 Ans: A =

	ABCD is a square. Bl	DE is a straight	line. ∠ADF	= 28°. Find ∠FC	DE.	Do not write in this space
	F 28°					
	E					
			Ans:		o	
E	Esther packed 2855 sw	eets equally in	to 25 bags a	and had some		
E	Esther packed 2855 sw sweets left. How many	eets equally in sweets had sh	to 25 bags a	ind had some		
E	Esther packed 2855 sw sweets left. How many	eets equally in sweets had sh	to 25 bags a	ind had some		
Es	Esther packed 2855 sw sweets left. How many	eets equally in sweets had sh	to 25 bags a	Ind had some		
Es	Esther packed 2855 sw sweets left. How many	eets equally in sweets had sh	to 25 bags a	Ind had some		
E	Esther packed 2855 sw sweets left. How many	eets equally in sweets had sh	to 25 bags a	Ind had some		

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In a basketball game, the average score of 10 players in a team was 13.2 points.

Do not write in this space

Each statement below is either true, false, or not possible to tell from the information given. For each statement, put a tick (\checkmark) in the correct column.

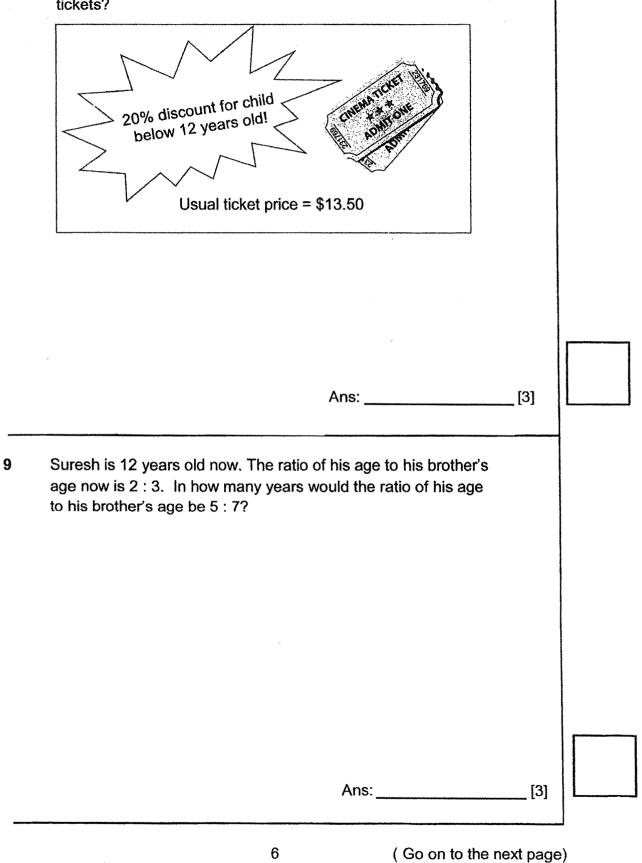
Statement	True	False	Not possible to tell
(a) Every player scored at least 13 points.			
(b) After including two more players who scored 10 and 12 points respectively, the average score of each player in the team would decrease.			

4 (Go on to the next page)

spac	questions 6 to 17, show your working clearly and write your answers in the ce provided. The number of marks available is shown in brackets [] at end of each question or part-question. (45 marks)	Do not write in this space
6	Wesley and Xavier have 217 marbles altogether. Xavier and Yixian have 105 marbles altogether. Wesley has 3 times as many marbles as Yixian. How many marbles does Xavier have?	
		· · · · · · · · · · · · · · · · · · ·
	Ans: [3]	
7	Joan spent \$168 on a rice cooker and $\frac{3}{8}$ of the remainder of her money on an oven. She then had \$1015 left. How much money did she have at first?	
	Ans: [3]	
	5 (Go on to the next page)

•

There was a promotion on movie tickets at Cinema A as shown below. Mr Tan brought his wife and 2 children, aged 10 and 15 years old, to watch a movie at Cinema A together. How much did he pay for the tickets? Do not write in this space



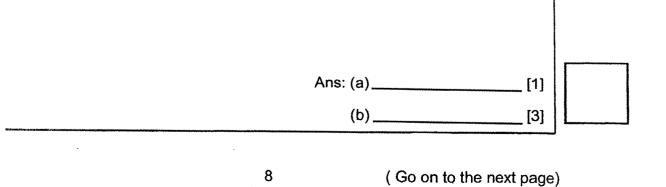
	σ	
10	A rectangular tank measuring 20 cm by 42 cm by 16 cm was $\frac{2}{3}$ filled	Do not write in this space
	with water. There was a leak at the bottom of the tank and water	an a
1000 1000 - 1000	seeped out at the rate of 8 ml per second.	
	How many minutes would it take to empty the tank completely?	
	Leave your answer correct to 1 decimal place.	
	Ans: [3]	
11	Thiru played 5 games of bowling. His scores for the first 4 games were 120, 105, 176 and 169 points respectively. (a) Find his average score for the first 4 games.	
	(b) After his fifth game, his average score increased by 3.1 points.	
	Find his score for his fifth game.	
	(a)[1]	
	(b)[3]	
	7 (Go on to the next page	. 3)

12 The table below shows the parking fees at a car park.

Do not write in this space

First 1 hour or less	\$2.50
Every additional 30 minutes or part thereof	\$1.20
Overnight parking (from 10 p.m. to 6.30 a.m.)	\$10

- (a) Tom parked his car at the carpark at noon time for 1 hour and 19 minutes. How much did he have to pay?
- (b) Mindy parked her car at the car park from 5.10 p.m. on Monday to 9 a.m. on Tuesday. Find the amount of parking fees that she had to pay.



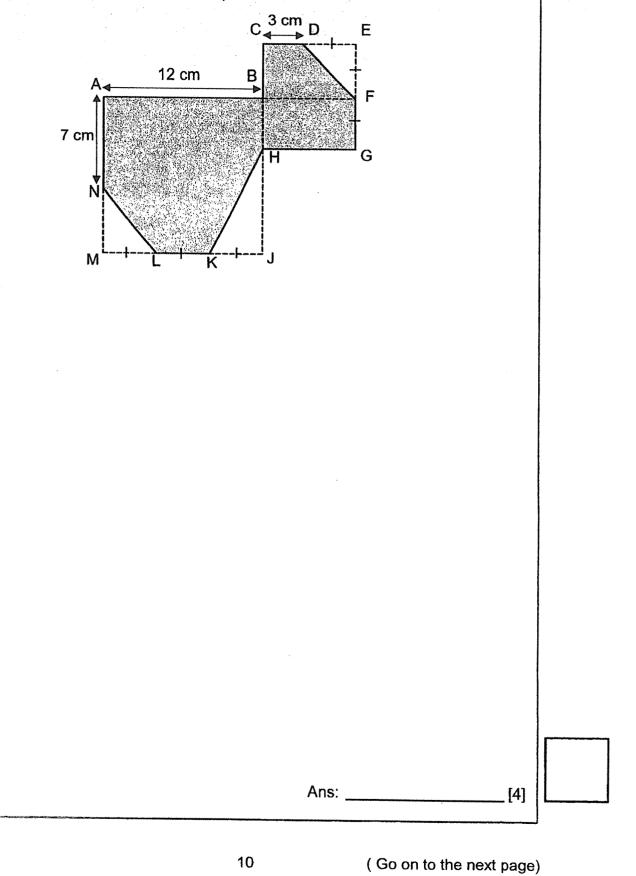
13 June spent $\frac{1}{9}$ of her money to buy 5 m of ribbon. She then spent $\frac{3}{4}$ of

her remaining money to buy more ribbon to complete her project. Each meter of ribbon cost \$0.90. How much did she pay for all the ribbon?

Do not write in this spac

	Ap ₀ ;	[4]	
 9	Ans: _	(Go on to the next page)	

In the figure below, ABJM is a square and CEGH is a rectangle. AB = 12 cm, AN = 7 cm and CD = 3 cm. DE = EF = FG = ML = LK =KJ. Find the area of the shaded part.

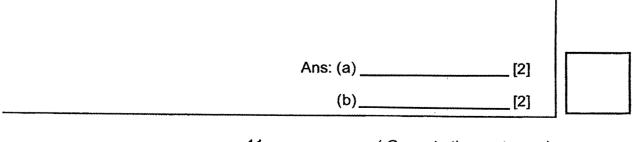


Do not write ₁ in this space

John and Keith had the same number of sweets. Each of them packed his own sweets into packets. John packed 5 sweets in each packet and had 2 sweets left. Keith packed 8 sweets in each packet and was short of 4 sweets.

Do not write in this space

- (a) How many sweets did each of them have if they used the same number of packets?
- (b) What was the smallest possible number of sweets each of them had if they used different number of packets?



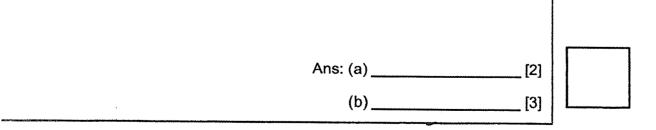
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16 Dan had some marbles. He placed $\frac{1}{6}$ of them in Box A and $\frac{1}{4}$ of the remainder in Box B. The rest were placed in Box C. Dan moved 21 marbles from Box C to Box B and some marbles from Box C to Box A. In the end, each box contained the same number of marbles.

Do not write

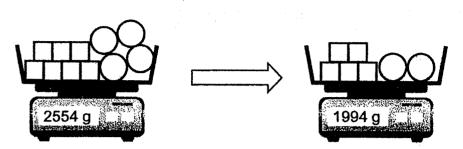
in this space

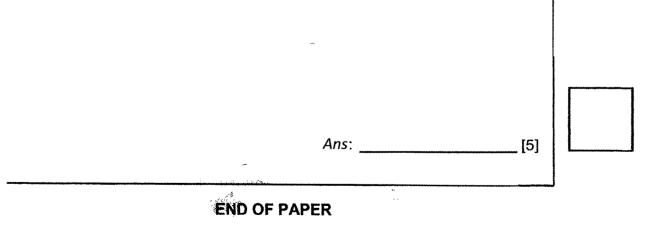
- (a) What fraction of the marbles was in Box C at first? Give your answer in the simplest form.
- (b) How many marbles were there altogether?



7 The total mass of 7 identical cubes and 4 identical balls in a basket was 2554 g. After Nazim removed 2 cubes and 2 balls from the basket, the total mass became 1994 g. Each ball weighs 24 g more than a cube. Find the mass of the basket in kilograms.

Do not write in this space





13

2021 End-Of-Year P5 Mathematics Paper 1 Booklet A and Booklet B

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Booklet A

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Qn	Answer	Qn	Answer
1	3	11	3
2	2	12	3
3	1	13	3
4	3	14	1
5	2	15	3
6	2		
7	4		
8	2		
9	2		
10	2		

<u>Booklet B</u>

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Qn	Answer
16	Four million, five hundred thousand, eight hundred and nine.
17	$\frac{2}{3} + \frac{4}{7} = \frac{14}{21} + \frac{12}{21}$
	$=\frac{26}{21}$
	$=1\frac{5}{21}$
18	$\frac{40}{200}$ ×100% = 20%
19	180° – 46° – 22° = 112° (angles on a straight line)
20	1000 m = 1 km 1060 m ÷ 1000 = 1.06 km
21	Fraction of children = $1 - \frac{3}{5}$
	$=\frac{2}{5}$
	Number of children = $\frac{2}{5} \times 450$
	= <u>180</u>

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ارد بینه مدرخوان ا معتقده

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22	875 + 64 = 939 OR							
	874 + 65 = 939 OR	Note the digits in the tens place have to be the 2 nd and 3 rd largest value,						
	865 + 74 = 939 OR	thus either 6 or 7 has to be placed in						
	864 + 75 = 939	the tens place.						
23	J: R							
	90 : 150							
	= <u>3:5</u>	-						
24	1 set = 5 segment of 1 cm = 2 g	preys segments						
	No. of sets in 45 cm = 45 + 5 =							
	No. of grey segments in 45 cm	= 9 × 2 = <u>18</u>						
25	Method 1							
	80 pages × 2 =160 \rightarrow 4 min (2 printers start printing at the same time) 480 pages \rightarrow 4 min × 3 = 12 min							
	$\frac{12 \text{ m}}{12 \text{ m}}$	<u></u>						
	Method 2							
	80 pages \rightarrow 4 min 480 pages \rightarrow 480 ÷ 80 = 6 min							
	$6 \text{ min} \times 2 = 12 \text{ min}$ (2 printers s							
	Mothed 2							
	$\frac{\text{Method 2}}{4 \text{ min} \rightarrow 80 \times 2} = 160 \text{ pages } (2)$	printers start printing at the same time)						
	480 ÷ 160 = 3							
	3 × 4 min = <u>12 min</u>							
26	Area of shaded triangle = $\frac{1}{2}$ ×	9 cm × 9 cm						
	= 40.5							
	70.0							
27	Volume of cuboid = 20 cm × 5	cm × 5 cm						
	= <u>500</u> cm ³							
28	Volume of water left in the tank	$=\frac{1}{2} \times 20 \text{ cm} \times 10 \text{ cm} \times 12 \text{ cm}$						
		$= 800 \text{ cm}^3$						
	$800 \text{ cm}^3 = 800 \text{ m}\ell$							
	1.2 l = 1.2 ×1000 ml = 1200 ml							
	Volume of water poured out = 1	200 – 800 = <u>400</u> ml						

29	$\angle a + \angle a = (180^{\circ} - 70^{\circ})$ = 110° $\angle a = 110^{\circ} \div 2$ = 55°
30	Total amount of food thrown away = 30 + 28 + 40 + 36 + 33 = 167
	Average of food thrown away = 167 + 5 = <u>33.4</u>

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METHODIST GIRLS' SCHOOL (PRIMARY) END-OF-YEAR EXAMINATION 2021 PRIMARY 5 MATHEMATICS ANSWER KEY

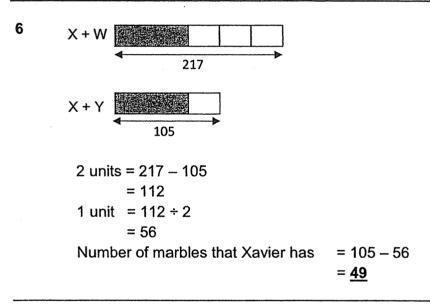
Paper 2

1 Total amount collected

= 8 x 25 x 0.70 = **<u>\$140</u>**

- 2 A = <u>8</u> [A1] B = <u>3</u> [A1]
- 3 ∠FDE = 180° 28° 45° = 107°
- 4 <u>Method 1</u> 2855 ÷ 25 = 114.2 Number of sweets left = 0.2×25 = <u>5</u> <u>Method 2</u> 2855 ÷ 25 = 114.2 Number of sweets packed = 114 × 25 = 2850 Number of sweets left = 2855 - 2850 = <u>5</u> <u>Method 3</u> 2855 ÷ 25 = 114 R5 [M1] Number of sweets left = **5**

Statement	True	False	Not possible to tell
(a) Every player scored at least 13 points.	•		1
(b) After including two more players who scored 10 and 12 points respectively, the average score of each player in the team would decrease.	~		



 $\frac{5}{8} \text{ of remaining money} = \1015 All of remaining money $= \frac{1015}{5} \times 8$ = \$1624Amount of money at first= \$1624 + \$168 = \$1792

5

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Cost of discounted child ticket $=\frac{80}{100} \times 13.50$

= \$10.80

Total cost for 4 tickets $= 3 \times 13.50 + 10.80$

= <u>\$51.30</u>

9 Method 1

8

Age now:Age laterS : B : DifferenceS : B : Difference2 : 3 : 15 : 7 : 212 : 18 : $\underline{6}$ 15 : 21 : $\underline{6}$ Number of years later= 15 - 12 or 21 - 18= $\underline{3}$

Method 2

Brother's age now = $\frac{12}{2} \times 3$ = 18 years old Age difference = 18 - 12 = 6 Suresh's age then = $5 \times \frac{6}{2}$ = 15 Number of years later = 15 - 12 or 21 - 18= $\frac{3}{2}$

10 Volume of water in tank = $\frac{2}{3} \times 20 \times 42 \times 16$ = 8960 cm³ = 8960 ml Time taken to empty tank = 8960 ÷ 8 = 1120 sec $\approx 18.7 \text{ min (correct to 1 decimal place)}$

(a) Average score for first 4 games = $(120 + 105 + 176 + 169) \div 4$

= 142.5 points

(b) Method 1 Average score for 5 games = 142.5 + 3.1= 145.6 points Total score for 5 games $= 5 \times 145.6$ = 728 points Score for the 5th game = 728 - 570 = 158 points

Method 2 Score for the 5th game $= 142.5 + 5 \times 3.1$ = 158 points

12 (a) Amount that Tom has to pay = 2.50 + 1.20= \$3.70

> (b) $(1^{st} day)$ Time from 5.10 pm to 6.10 pm $(1^{st} hour) = 1 h$ (1st day) Time from 5.10 pm to 10 pm = 3 hours 50 minutes (2nd day) Time from 6.30 am to 9 am = 2 hours 30 minutes Total number of hours excluding first hour = 6 h 20 min Total parking fees payable = $$2.50 + 13 \times $1.20 + 10 = \$2.50 + \$15.60 + \$10 = <u>\$28.10</u>

Fraction of money spent on buying ribbon $=\frac{1}{9} + \frac{3}{4} \times \frac{8}{9}$ 13 $=\frac{1}{9}+\frac{2}{3}$ $=\frac{7}{a}$ Total length of ribbon used $= 7 \times 5$ = 35 m Total cost of ribbon = 35×0.90 = \$31.50 7

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 $DE = EF = FG = ML = LK = KJ = 12 \div 3$ = 4 cmTotal area = $12 \times 12 + 7 \times 8$ $= 200 \text{ cm}^2$ Area of $\Delta NML = \frac{1}{2} \times 5 \times 4$ = 10 cm² Area of $\Delta KJH = \frac{1}{2} \times 8 \times 4$ $= 16 \text{ cm}^2$ Area of $\triangle DEF = \frac{1}{2} \times 4 \times 4$ $= 8 \text{ cm}^2$ Area of shaded figure = 200 - 10 - 16 - 8 = <u>166 cm²</u>

15 Method 1

14

Excess + Shortage = 4 + 2 = 6Difference between the multiples = 8 - 5 = 3Gap divided by difference = $6 \div 3 = 2$ (a) Number of sweets $= 5 \times 2 + 2$ or $8 \times 2 - 4$ = 12

(b) Smallest possible number of sweets $= 12 + 5 \times 8$

= <u>52</u>

Method 2

(a)

1	2
5	10
7	12
8	16
4	12
	7

No. of sweets = 12

8 ŝ

`:

(b)

No. of pkts No. of sweets	1	2	3	4	5	6	7.7	8	9	10
Multiples of 5	5	10	15	20	25	30	35	40	45	50
+ 2	7	12	17	22	27	32	37	42	47	52
Multiples of 8	8	16	24	32	40	48	56		· · ·	
- 4	4	12	20	28	36	44	52			

Smallest possible number of sweets = 52

16

(a) Method 1

40° -	4u	4u	4u	4u	4u
∢ →	€	->4-		С	>
(4u)	(5u)			(15u)	

Fraction of marbles which are in Box C = $\frac{15}{24}$

 $=\frac{5}{8}$

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Method 2

Fraction of marbles which are in Box C = $\frac{3}{4} \times \frac{5}{6}$

$$=\frac{15}{24}$$

 $=\frac{5}{8}$

(b) No. of units per box in the end = $24 \div 3$

= 8

]

5

8 units - 5 units = 21 3 units = 21 1 unit = 21 \div 3 = 7 24 units = 24 x 7 = <u>168</u>

There were 168 marbles altogether.

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Mass of 2 d	cubes a	nd 2 balls =	2554 -	1994		
		=	560 g			
4 units $= 5$	60 – 2	x 24				. •
= 5	512 [°]					
1 unit = 5	512 ÷ 4					
128	В					
Mass of 1 of	cube	= 128g				
Mass of 1 b	ball	= 128 + 24				
		= 152g				
Mass of ba	sket					
= 2554 – 7	x 128 –	- 4 x 152 OF	र 199	4 – 5 x 128	– 2 x 152	
= 1050g						
= 1.05kg						

