

NAN HUA PRIMARY SCHOOL PRELIMINARY EXAMINATION 2024 PRIMARY 6

PAPER 1 (BOOKLET A)

Total Time for Booklets A and B: 1 hour

INSTRUCTIONS TO CANDIDATES

- 1. Write your name and index number in the space provided.
- 2. Do not turn over the page until you are told to do so.
- 3. Follow all instructions carefully.
- 4. Answer all questions.
- 5. Shade your answers in the Optical Answer Sheet (OAS) provided.
- 6. The use of calculators is $\underline{\text{NOT}}$ allowed.

Name :	(
Form Class : 6	Teaching Group: 6M
Date : 21 August 2024	

This booklet consists of 7 printed pages and 1 blank 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) and shade your answer on the Optical Answer Sheet.

(20 marks)

1	In 2	1.56, which digit is in the tenths place?	
	(1)	1	
	(2)	2	
	(3)	5	
	(4)	6	
2	Whic	ch of the following is the first common multiple of 4 and	6?
	(1)	1	
	(2)	2	
	(3)		
	(4)	24	
3		diagram shows a refrigerator. Which of the following	could be the height of
	uie	refrigerator?	
	(1)	18 cm	
	(2)	180 cm	7
	(3)	18 m	
	(4)	180 m	

4 Which of the following is the same as 9 \ell 75 mi?

- (1) 9.075 ml
- (2) 975 ml
- (3) 9075 ml
- (4) 9750 ml

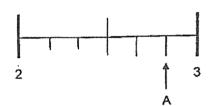
5 In the number line, what is the mixed number represented by A?







(4)
$$2\frac{6}{7}$$

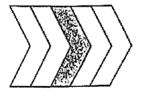


Which of the following shows $\frac{1}{2}$ of the figure shaded?









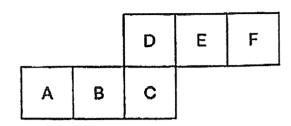
(1)

(2)

(3)

(4)

7 The figure below is the net of a cube. Which 2 faces are opposite each other?



- (1) A and D
- (2) D and E
- (3) C and F
- (4) B and E

8 Sharon watched a movie that was 2 h 20 min long. It ended at 00 30. What time did the movie start?

- (1) 02 50
- (2) 10 10
- (3) 22 10
- (4) 22 50

9 William had \$100. After buying 5 identical bags, he had \$p left. Find the cost of each bag.

- (1) $\$(\frac{100-p}{5})$
- (2) $\$(\frac{100p}{5})$
- (3) \$(100-5p)
- (4) $\$(100-\frac{p}{5})$

 $\frac{5}{9}$ of the audience in a theatre were adults and the rest were children. $\frac{1}{4}$ of the children were boys and the rest were girls. What was the ratio of the number of girls to the number of adults?

- (1) 1:5
- (2) 3:5
- (3) 5:1
- (4) 5:3

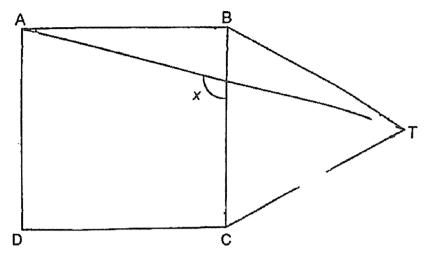
Nathanael spent 20% of his money on a cap. He used the rest of the money to buy bag and a shirt. The bag cost \$15 more than the cap. The shirt cost \$165. Find the cost of the bag.

- (1) \$35
- (2) \$48
- (3) \$60
- (4) \$75

Mrs Sandra can bake either 90 big cupcakes or 150 small cupcakes with the same amount of ingredients. After baking 60 big cupcakes, what is the maximum number of small cupcakes she can bake with the remaining ingredients?

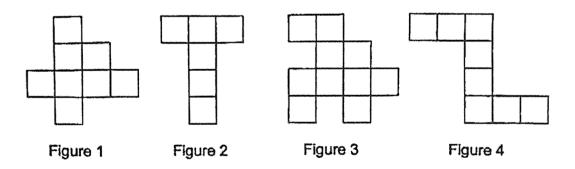
- (1) 30
- (2) 50
- (3) 90
- (4) 100

In the figure, ABCD is a square and BCT is an equilateral triangle. AT is a straight line. Find $\angle x$.



- (1) 105°
- (2) 120°
- (3) 135°
- (4) 150°

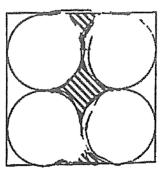
The figures below are made up of identical squares.



How many figure(s) has/have at least one line of symmetry?

- (1) 1
- (2) 2
- (3) 3
- (4) 4

The figure below is made up of 4 identical circles inside a square. The length of the square is 56 cm. Find the perimeter of the shaded part. (Take $\pi = \frac{22}{7}$)



- (1) 88 cm
- (2) 144 cm
- (3) 176 cm
- (4) 232 cm



NAN HUA PRIMARY SCHOOL PRELIMINARY EXAMINATION 2024 PRIMARY SIX

MATHEMATICS PAPER 1 (BOOKLET B)

Total Time for Booklets A and B: 1 hour

INSTRUCTIONS TO CANDIDATES

- 1. Write your name and index number in the space provided.
- 2. Do not turn over the page until you are told to do so.
- 3. Follow all instructions carefully.
- 4. Answer all questions.
- 5. Use dark blue or black ball point pen to write your answers in the space provided for each question.
- 6. Do not use correction tape/ fluid/ highlighter.
- 7. The use of calculators is **NOT** allowed.

Marks Obtained

Section		Maximum Marks	Actual Marks
Booklet A		20	
Paper 1	Booklet B	25	
Paper 2		55	
Total		100	

Name:		()
Form Class : 6	Teaching Group: 6	M	

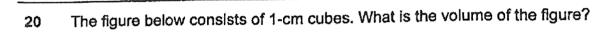
Date : 21 August 2024

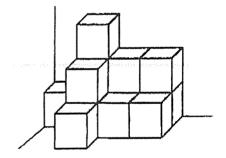
This booklet consists of 10 printed pages.

Ques For q	stions 16 to 20 carry 1 mark each. Write your answers in the spaces provided. uestlons which require units, give your answers in the units stated.	(5 n	marks)
16	Round 2.385 to 2 decimal places.		
	Ans:		
17	Find the value of 85 - (30 + 24) + 6 x 3.		
			gui. State
			Dage
		and the second	Please do not write in the margin.
			ot write
			ਦ 0 0
		***************************************	Pleas
····	Ans:		<u></u>
18	Find the value of $\frac{3}{4} \times \frac{1}{6}$. Give your answer in its simplest form.	and the second second	
((Carlos Street)	Ans:		<u> </u>

		22
19	The radius of a circle is 14 cm. Find its area.	$(Take\pi = \frac{1}{7})$

n	1	2
	n	m





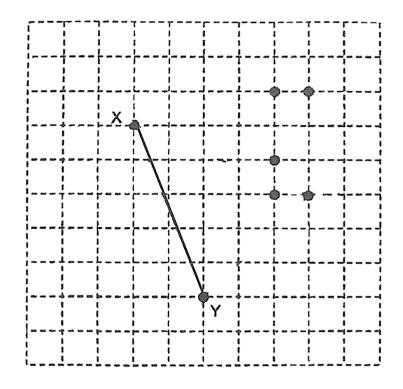
Ans:	***************************************	cm ²
------	-----------------------------------------	-----------------

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

(20 marks)

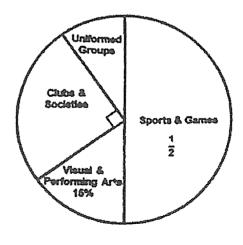
21 In the square grid below, XY is a straight line.

Draw and label isosceles triangle XYZ using one of the given points as point Z.



Please do not write in the margin.

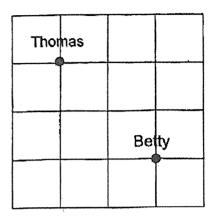
22 The ple chart shows the Co-Curricular Activities (CCA) that 290 Primary 5 students join in a school. How many Primary 5 students join Uniformed Groups?



Ans:

<u></u>	

The square grid shows the position of Thomas and Betty.





(a) Fill in the blank with North-East, North-West, South-East or South-West.

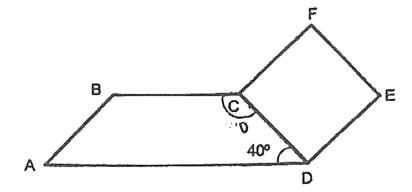
Thomas is ______ of Betty.

(b) Thomas and Betty faced the same direction at first. Thomas then turned 45° clockwise while Betty turned 135° anti-clockwise to face North-East. What direction did Thomas face in the end?

Ans: _____

Ans	•	\$	
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25 In the figure below, ABCD is a trapezium and CDEF is a square. Given that \angle ADC = 40°. Find \angle BCF.



Ans:

Please do not write in the margin.

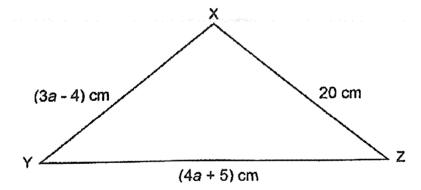
(Go on to the next page)

Jane has 1 m of string. She cuts $\frac{1}{4}$ m of the string to tie a box. The remaining length of the string is cut into shorter pieces each measuring $\frac{1}{5}$ m. What is the maximum number of $\frac{1}{5}$ - m pieces that Jane have?

f

1	٠	
Ans		

The figure below shows an isosceles triangle XYZ, where XY = XZ. Find length YZ.



Ans : _____ cm

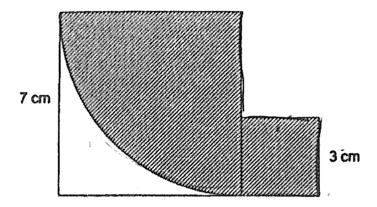
Number of Books	O	1	2	3	4 or more
Number of Students	50	70	30	?	?

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

	Statement	True	False	Not Possible To Tell
(a)	1/3 of the students read 1 book in a week.			
(b)	Given that $\frac{2}{5}$ of the students read at least 2 books in a week, the number of students who read 3 books was the greatest.			

Please do not write in the margin.

A quarter circle can be found within the big square. Find the perimeter of the shaded part. (Take $\pi = \frac{22}{7}$)



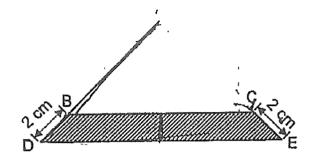
Please do not write in the margin.

Ans : _____ cm

In the figure, ABC and ADE are right-angled isosceles triangles.

BD = CE = 2 cm. The area of the shaded part is 22 cm².

Find the length of AD.



Ans : _____ cm



NAN HUA PRIMARY SCHOOL PRELIMINARY EXAMINATION 2024 PRIMARY SIX

MATHEMATICS PAPER 2

Time: 1 hour 30 minutes

INSTRUCTIONS TO CANDIDATES

- 1. Write your name and index number in the space provided.
- 2. Do not turn over the page until you are told to do so.
- 3. Follow all instructions carefully.
- 4. Answer all questions.
- 5. Use dark blue or black ball point pen to write your answers in the space provided for each question.
- 6. Do not use correction tape/ fluid/ highlighter.
- 7. The use of calculators is allowed.

Marks Obtained

Section	Maximum Marks	Actual Marks
Paper 2	55	

Name :	
Form Class : 6	Teaching Group: 6M
Date : <u>21 August 2024</u>	

This booklet consists of 16 printed pages.

Questions 1 to 5 carry 2 marks each. Show your working clearly and write your answer the space provided. For questions which require units, give your answers in the units stated. (10 marks)				
- Comme	(a) Use all the digits 2, 3, 5, 7, to form the greatest multiple of 5.			
	Ans: (a)			
	(b) Use all the digits 2, 3, 5, 7 to form the smallest odd number between 3000 and 4000.			
		Please do not write in the margin.		
La constantina de la	Ans: (b)	nog ¥		
2	Wen Xin scored an average of 82 marks in three Mathematics tests. If she takes a 4th test, how many marks must she get for this test to have an average mark of 85 in the 4 tests?	Please do		
				
	Ans:			

3 A shop sells three types of files. The table shows the number of files sold on Monday.

Type of file	Number of files sold
Clear	8
Clip	k
Ring	4 + 6k

(a) Find the total number of files sold by the shop on Monday. Express your answer in terms of k in the simplest form.

_		
Ans:	(a)	

(b) If k = 11, find the total number of files sold by the shop on Monday.

Ans: (b) _____

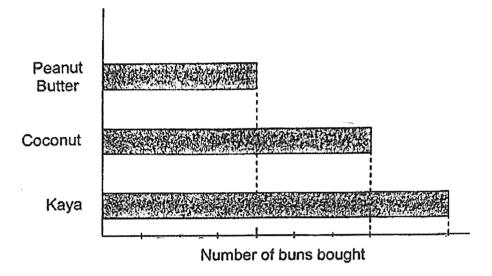
4 Elaine took a taxi from home to the shopping mall. Her taxi fare was based on the charges shown below.

First 1 km	\$4.60
Every additional 400 m or less	\$0.26
Every 45 seconds of waiting or less	\$0.26

The taxl travelled a total distance of 4.7 km and stopped once at a traffic light for 1 minute. How much did Elaine pay for her taxl fare?

Ans: \$ _____

George bought buns of 3 different flavours. The bar graph shows the number of each type of bun that he bought. The number of buns he bought is not shown on the scale.



The price of each coconut bun is \$1.80. George paid \$50.40 for the coconut buns. How many kaya buns did he buy?

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)

Alice and Diana had some money each. The amount of money that Alice

had was $\frac{1}{4}$ the amount of money Diana had. They wanted to buy the same dress each but Alice was short of \$28.40 and Diana was short of \$15.50. How much was the dress?

Ans: _____[3]

7 Mr Lim bought 24 tubs of identical ice cream for \$360. After a price increase in each tub of ice cream, he could only buy 20 tubs with the same amount of money. What was the percentage increase in the price of each tub of ice cream?

\ns: _____[3]

Please do not write in the margin.

Ans: _

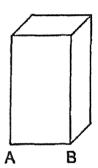
[3]

The distance between Town A and Town B is 150 km. At 11 am, Benny left Town A for Town B. At 11.30 am, Charlie left Town B for Town A. Benny's speed was $\frac{1}{2}$ of Charlie's speed. The 2 boys met each other when they were 90 km away from Town B. They did not change their speeds throughout their journey. Find Charlie's speed in km/h.

Please do not write in the margin.

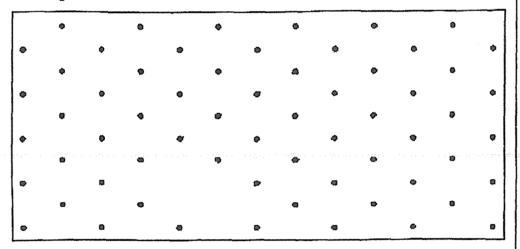
Ans: _____[4]

The figure below shows a square-base cubold with a volume of 11 (a) 272 cm³: Given that the height of the cuboid is 17 cm, find the length of AB.

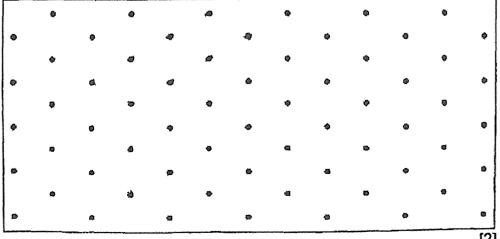


Ans:	(a)			2	1
		And the second s	-		

(b) The figure below shows Cuboid Y.

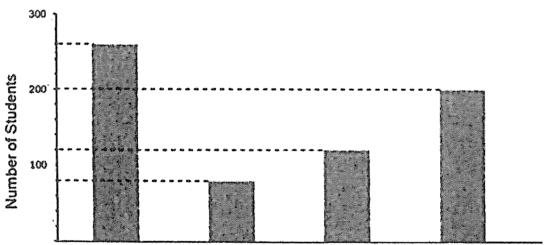


Draw a cuboid with a volume twice that of Cuboid Y on the isometric grid below.



The pie chart shows a group of students who voted for their favourite movie genre. Each student was allowed to vote only once. The same information is shown in a bar graph, but the names of the movie genres are not shown on the bar graph.





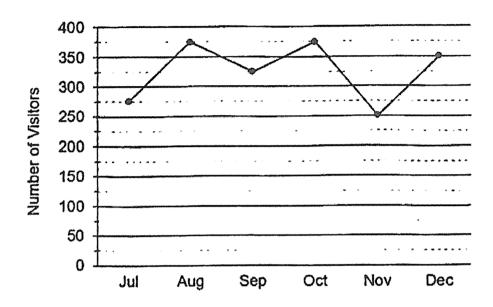
(a) How many students voted Comedy as their favourite movie genre?

Ans: (a) _____[1]

(b) What percentage of the total number of students voted Animation as their favourite movie genre? Express your answer in 1 decimal place.

Ans: (b) _____[2]

13 The graph shows the number of visitors to the Children's Museum from July to December.



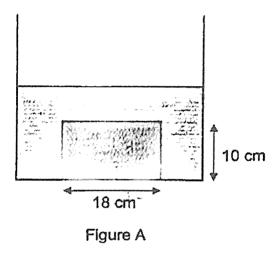
(a) In which one-month period was there the greatest change in the number of visitors to the Children's Museum?

Ans: (a) to	[1]
-------------	----	---

(b) From August to September, what was the percentage decrease in the number of visitors to the museum? Express your answer in 1 decimal place.

Ans: (b) _____[2]

A cubic container measuring 30 cm by 30 cm by 30 cm contains 9000 cm³ of water. A metal block measuring 18 cm by 10 cm by 10 cm is placed horizontally into the container. The metal block sinks to the bottom of the container as shown in Figure A.



(a) What is the height of the water level in Figure A?

Ans: (a) _____[2]

(b) The position of the metal block is changed such that it is now placed vertically in the container as shown in Figure B. What is the height of the new water level in Figure B?

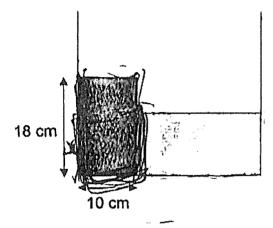


Figure B

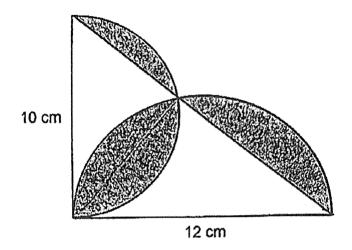
Ans: (b) _____[2]

A group of tourists paid a total amount of \$2220 for the admission tickets to the Singapore Zoo. In the group, the ratio of the number of adults to the number of children to the number of senior citizens was 5 : 2 : 3. The ratio of the amount paid for all children to the amount paid for all senior citizens was 7 : 6. The amount paid for all senior citizens was ¹/₄ the amount paid for all adults. Given that the price of an adult ticket was \$48, find the total number of people in the group.

Please do not write in the margin.

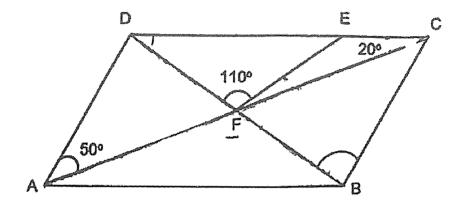
Ans: _____[5]

The figure below is made up of a right-angled triangle and 2 semicircles, with diameter 10 cm and 12 cm respectively. Find the total area of the shaded parts. (Take $\pi = 3.14$)



Ans: _____[4]

17 In the figure below, ABCD is a parallelogram. AFC and DFB are straight lines. E is a point on CD such that DF = FE.



(a) Find ∠EFC

Ans: (a) _____[3]

(b) Find ∠CBD

(b) _____[2]

End of Paper



Nan Hua Primary School PRELIM Primary 6 Mathematics 2024 <u>Answer Key</u>

Paper 1 Booklet A

Questions 1 to 10 (1 mark each) Questions 11 to 15 (2 marks each)

No.	Answer	No.	Answer	No.	Answer
1	(3)	6	(1)	11	(4)
2	(3)	7	(4)	12	(2)
3	(2)	8	(3)	13	(1)
4	(3)	9	(1)	14	(2)
5	(3)	10	(2)	15	(4)

Paper 1 Booklet B

Questions 16 to 20 (1 mark each) Questions 21 to 30 (2 marks each)

No.	Solution	
16	2.39	
17	58	
18	1/8	
19	$\frac{22}{7} \times 14 \times 14$ = <u>616</u> cm ²	
20	Total cubes	
	= 8 (base) + 4 (middle) + 1 (top) = 13	
	Total volume = $13 \times 1 \text{ cm}^3 = \underline{13} \text{ cm}^3$	

Page 1 of 9

	21	X Z	20	$1 - \frac{1}{4} = \frac{3}{4}$ $\frac{3}{4} + \frac{1}{5} = \frac{3}{4} \times \frac{5}{1}$ $= \frac{15}{4}$ $= 3\frac{3}{4} \approx 3$	
	22	100% - 25% - 15% - 50% = 10%	27	3a – 4 = 20	
Accompany of the Control of the Cont		10% x 290 = <u>29</u>		a = 24 ÷ 3 = 8	
***************************************		. <u> </u>		Length YZ = 4 x 8 + 5 = <u>37</u> cm	64
e de la constante de la consta	23	(a) North-West	ž	garana di dilibera di Colonia di Santa	Pryson i
Appropries services		(b) South-West			
	24	\$4 x 6 = \$24			
		\$24 + 2 = \$12		ers @	
	25	∠BOD ≥ 180° - 40° = 140°			
		∠BCF = 360° – (140° + 90°)			
		= <u>130</u> °			
			Page 2 of 9	II	;
20		estPa	R	er.co	M

Solution

Solution

No.	Solution	No.	Solution
28	(a) Not possible to tell	30	By listing / Guess & Check
			$\frac{1}{2} \times 10 \times 10 = 50$
	(b) False		
			$\frac{1}{2} \times 12 \times 12 = 72$
			72 – 50 = 22
			AD = <u>12</u> cm
29	Arc length of quadrant		
	$=\frac{1}{4} \times \frac{22}{7} \times 14$		
	= 11 cm		()
	Perimeter of shaded region		
	= 11 + 7 + 4 + (3 x 3) = <u>31</u> cm		
	9		
	10.9		
		Page 3 of 9	
	G		

Paper 2

No.	Solution	No.	Solution
1	(a) <u>7325</u>	4	First 1 km = \$4.60
na consecutiva esti de	(b) <u>3257</u>		Remaining distance = 3700 m
4			3700 ÷ 400 = 9 R 100
			(10 groups of 400 m or less)
			\$0.26 x 10 = \$2.60
		-	\$4.60 + \$2.60 + 2 × \$0.26 = \$ <u>7.72</u>
2	4 x 85 = 340	5	Number of coconut buns = \$50.40 ÷ \$1.80
	3 x 82 = 246		= 28
S	340 - 246 = <u>94</u>		7 units = 28
			1 unit = 28 + 7
The state of the s			= 4
3	(a) 8 + k + 4 + 6k		9 units = 9 x 4
	= <u>7k + 12</u>		= <u>36</u>
	(b) 7 x 11 + 12 = <u>89</u>		

No.	Solution	No.	Solution
6	3u = \$28.40 - \$15.50 = \$12.90	8	\$12 x 15 = \$180
	1u = \$12.90 ÷ 3		90% x \$180 = \$162 (15 cartons)
	= \$4.30		1296 + 162 = 8 (groups)
	\$4.30 + \$28.40 = <u>\$32.70</u>		8 x 15 = <u>120</u> (cartons)
•			
7	\$360 ÷ 24 = \$15 (original price of each tub)	9	F:NF
	\$360 ÷ 20 = \$18 (new price of each tub)		Before 8:5
	\$18 - \$15 = \$3 (price increase)		(32 : 20)
	$\frac{3}{15} \times 100\% = \frac{20\%}{1}$	***	After 9:4
	15 15076 2016		(45 : 20)
			45u = 12 600
			1u = 12 600 ÷ 45
			= 280
			13u = 280 x 13
		No. of the second secon	= <u>3640</u>

Page 5 of 9

No.	Solution	No.	Solution
10	Charlie had travelled 90 km when the 2 boys met	11	(a) 272 ÷ 17 = 16
	Dist. travelled by Benny when they met		√16 = <u>4 cm</u>
	= 150 – 90 = 60 km		
The state of the s	Dist. Benny travelled from 1130 to meet time		41.50
desire discourse equipment	= 90 ÷ 2 = 45 km		(b) Either of the 3 answers are correct 1. 2 units by 3 units by 1 unit 2. 1 unit by 3 units by 2 units
	(Since Benny's speed is half of Charlie's within the same timeframe)		3. 1 unit by 6 units by 1 unit
	Dist. Benny travelled from 11 to 1130		
	= 60 - 45		
	= 15 km		
To the state of th	Benny's Speed = 15 km $\div \frac{1}{2}$ h $= 30 \text{ km/h}$		
	Charlie's Speed = 30 x 2		
	= 60 km/h	*	
	- <u>55 Kilili</u>		

Page 6 of 9

No.	Solution
12	(a) <u>80</u>
	(b) $260 + 80 + 120 + 200 = 660$ $\frac{260}{660} \times 100\% \approx \frac{39.4\%}{600}$
13	(a) Oct to Nov or October to November (b) 375 - 325 = 50 50 375 x 100% ≈ 13.3%

I	Solution
(a	1) Total volume = 9000 + 18 x 10 x 10 = 10 800 cm ³ Height of water in Figure A = $\frac{10 800}{30 \times 30}$ = 12 cm
(E	b) Base Area (less metal block) = 30 x 30 - 10 x 10 = 800 cm ² Height of water in Figure B = 9000 ÷ 800 = 11.25 cm

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17 (a) ∠DEF = (180 - 110) + 2 = 35° ∠FEC = 180 - 35 = 145° ∠EFC = 180 - (145 + 20) = 15° ∠EFC = 180 - (145 + 20) = 15° (b) ∠CFB = 180° - (110° + 15°) = 55° (Angles on a straight line) ∠ADC = 180° - (50° + 20°) = 110° (Sum of angles in a triangle) ∠DCB = 180° - 110° = 70° (Interior angles) ∠ACB = 70° - 20° = 50° ∠CBD = 180° - (55° + 50°) = 75° (Sum of angles in a triangle)	No.	Solution	n No.	Salution
	17	(a) ∠DEF = (180 - 110) + 2 = 35° ∠FEC = 180 - 35 = 145° ∠EFC = 180 - (145 + 20)	17	∠CFB = 180° – (110° + 15°) = 55° (Angles on a straight line) ∠ADC = 180° – (50° + 20°) = 110° (Sum of angles in a triangle) ∠DCB = 180° – 110° = 70° (Interior angles) ∠ACB = 70° – 20° = 50° ∠CBD = 180° – (55° + 50°)

