

HENRY PARK PRIMARY SCHOOL 2024 PRELIMINARY EXAMINATION MATHEMATICS PRIMARY 6

PAPER 1 (BOOKLET A)

Name:()	Parent's Signature
Class: Primary 6		

100

Paper 1 Booklet A 20 Booklet B 25 Paper 2 55

Total Time for Booklets A and B: 1 hour

Do not turn over this page until you are told to do so.

Follow all instructions carefully. Answer all questions.

Marks:

Total

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

You are not allowed to use a calculator.

- William Communication

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 in the Optical Answer Sheet.

(20 marks)

What is the missing number in the box?

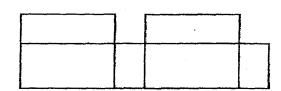
- (1) 80 437
- (2) 84 037
- (3) 84 307
- (4) 84 370
- The mass of a table is 11 kg when rounded to the nearest kilogramme. 2. Which of the following cannot be the mass of the table?
 - (1) 10.49 kg
 - (2) 10.55 kg
 - (3) 11.08 kg
 - (4) 11.46 kg
- Express $5\frac{2}{25}$ as a decimal. 3.
 - (1) 5.08
 - (2)5.25
 - 5.2 (3)
 - 5.8 (4)

4.	Which	Which of the following is likely the mass of 10 fifty-cent coins?			
	(1)	7 g			
	(2)	70 g			
	(3)	700 g			
	(4)	7000 g			
5.	Mabel sleep?	slept at 20 45 and wakes up at 06 10 the next day. How long did she			
	(1)	9 h 25 min			
	(2)	10 h 25 min			
	(3)	10 h 35 min			
	(4)	14 h 35 min			
6.		contained brown balls and yellow balls in the ratio 3 : 7. There were 84 yellow balls than brown balls. How many balls were there in the box ther?			
	(1)	120			
	(2)	147			
	(3)	210			
	(4)	280			

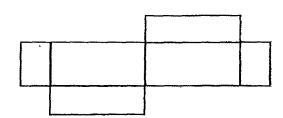
100 am to the second

7. Which of the following is a net of a cuboid?

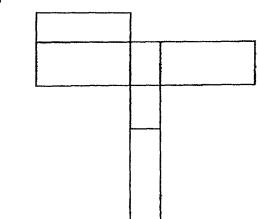
(1)



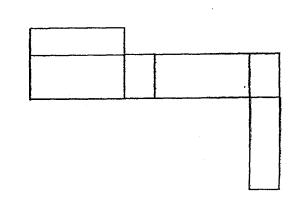
(2)



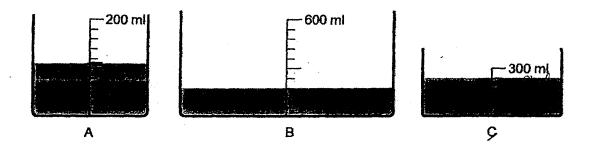
.(3)



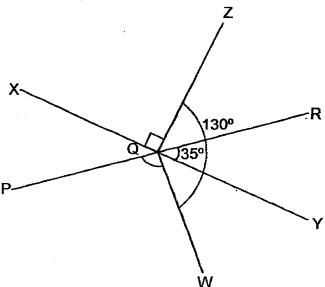
(4)



8. Containers A, B and C are filled with water as shown below. Arrange the containers according to the volume of water they contain from the greatest to the smallest.



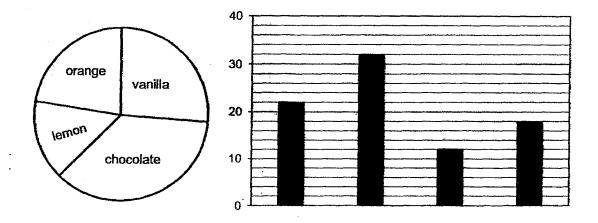
- (1) A, B, C
- (2) A, C, B
- (3) B, C, A
- (4) C, B, A
- 9. In the figure, XQY and PQR are straight lines. \angle XQZ = 90°, \angle ZQW = 130° and \angle RQY = 35°. Find \angle PQW.



- (1) 90°
- (2) 95°
- (3) 105°
- (4) 140°

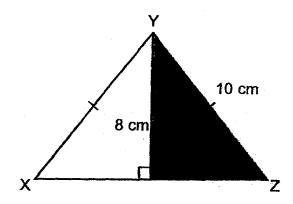
Use the information below to answer Questions 10 and 11.

The pie chart shows the number of chocolate, vanilla, lemon and orange muffins Darren baked. The same information is represented in the bar graph but the flavours are not shown.



- 10. How many orange muffins did Darren bake?
 - (1) 12
 - (2) 18
 - (3) 22
 - (4) 32
- 11. Express the number of lemon muffins as a fraction of the total number of vanilla and chocolate muffins.
 - $(1) \frac{1}{7}$
 - (2) $\frac{2}{9}$
 - (3) $\frac{6}{11}$
 - (4) $\frac{6}{25}$

12. Triangle XYZ has a perimeter of 32 cm. Find the area of the shaded part.



- (1) 24 cm²
- (2) 30 cm²
- (3) 40 cm²
- (4) 48 cm²

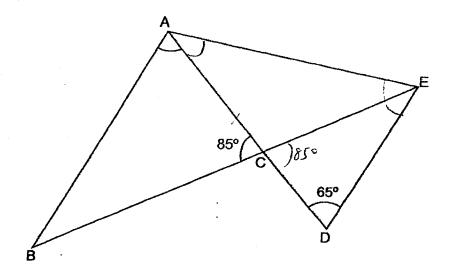
13. The table below shows the number of files in bookshops A and B.

-	Bookshop	Number of files	Percentage of red files
	Α	200	25%
	В	600	60%

Find the total number of files in bookshops A and B which are not red.

- (1) 120
- (2) 390
- (3) 410
- (4) 680

14. ABE and ADE are isosceles triangles. AB = AD = AE, $\angle ACB = 85^{\circ}$ and $\angle ADE = 65^{\circ}$. Find $\angle BAD$.



- (1) 50°
- (2) 55°
- (3) 60°
- (4) 85°
- 15. $\frac{1}{6}$ of the books in a class library were fiction books and the rest were non-fiction books. When the number of fiction books was increased by 100% and the number of non-fiction books increased by 50%, Mr Lim found that he had an additional 168 books in the library. How many books were there in the class library at first?
 - (1) 112
 - (2) 144
 - (3) 288
 - (4) 294



HENRY PARK PRIMARY SCHOOL 2024 PRELIMINARY EXAMINATION MATHEMATICS PRIMARY 6

PAPER 1 (BOOKLET B)

Name:()	1	
Class: Primary 6	ien/			/ 25

Total Time for Booklets A and B: 1 hour

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.

You are not allowed to use a calculator.

19. The number of children at a swimming club in May, June and July was in the ratio 4:5:7. There were 336 children at the swimming club in May. What was the total number of children at the swimming club in June and July?

Please do not write in the margin.

Ans:

20. Four small squares are shaded in the figure below.

Shade 2 more squares in the given figure so that it has a line of symmetry.

21. The table shows the heights of plants A, B, C and D in January and February.

Plant	January (height in cm)	February (height in cm)
Α	9	35
B	10	29
E	12	41
D	18	37

(a) Find the ratio of the heights of plant B to plant C to plant D in January. Give your answer in the simplest form.

Ans: (a)

(b) Name the plant with the greatest difference in heights between January and February. Find this difference.

(b) Plant

Difference: _____ cm

Peter had 2 pails, each containing 1200 cm³ of water. He poured all the water from both pails into an empty tank with no spillage. The tank had a square base of side 20 cm. Find the height of the water level in the tank.

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24.

at a discount of \$15 per t-shirt. Members were

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During a sale, a shop sold t-shirts at a discount of \$15 per t-shirt. Members were given a further discount of 25% on all purchases. Elaine is a member and paid \$216 for 6 such t-shirts. What is the price of each t-shirt without any discount?

Ans: \$_____

	School		
Jack's home			
	Claire's home		
		·	

N *

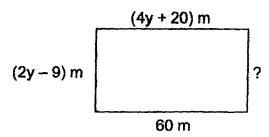
(a) In what direction is Jack's home from Claire's home?

Ans:	(a)	·
	£ \$	

(b) A market is located south-east of the school and north-east of Claire's home. Put a cross (X) in the square grid where the market is.

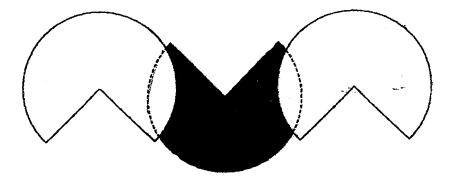
26. Find the value of the breadth of the rectangle.

Please do not write in the margin.



Ans:			n
Alis.			П

27. Zhi Han used 3 identical $\frac{3}{4}$ - circles of radius 28 cm to form the figure shown below. Some parts of the circles overlapped each other. Find the perimeter of the shaded part of the figure. (Take $\pi = \frac{22}{7}$)



28. Ashley baked 500 cookies. $\frac{3}{5}$ of them were chocolate cookies, $\frac{1}{4}$ of them were butter cookies and the rest were raisin cookies. She sold $\frac{2}{5}$ of the raisin cookies. How many raisin cookies did Ashley sell?

Ans:			
AHS.			

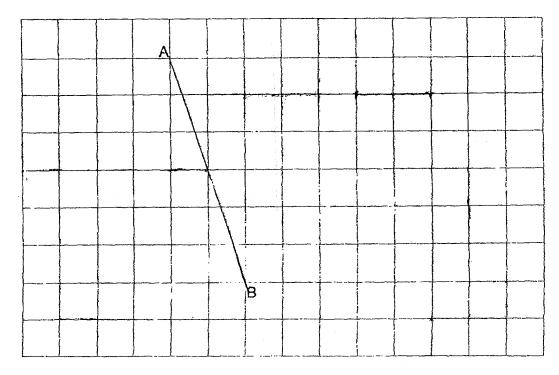
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29. The square grid shows line AB.

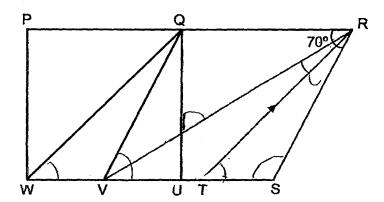
- a) AB is one side of a trapezium ABCD with ∠ABC = 90° and AB is parallel to CD. BC and CD are half the length of AB. Draw trapezium ABCD.
- b) EFGH is a parallelogram with the same perimeter as trapezium ABCD.

 Draw parallelogram EFGH such that it does not overlap with trapezium ABCD.

Use a pencil to draw your diagrams and label them clearly.



30. In the figure below, PQUW is a square and QRSV is a rhombus. QW is parallel to RT and \angle QRS = 70°. PQR and WUS are straight lines. Find \angle VRT.



Ans: ______

Please do not write in the margin.



HENRY PARK PRIMARY SCHOOL 2024 PRELIMINARY EXAMINATION MATHEMATICS PRIMARY 6

PAPER 2

	Parent's Signature
Name:()	
Class: Primary 6	55

Time for Paper 2: 1 hour 30 minutes

Do not turn over this page until you are told to do so.

Follow all instructions carefully.

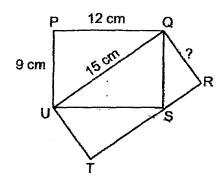
Answer all questions.

Show your working clearly as marks are awarded for correct working.

Write your answers in this booklet.

You are allowed to use a calculator.

1. PQSU and QRTU are rectangles where PQ = 12 cm, QU = 15 cm and UP = 9 cm. Find the length of QR.

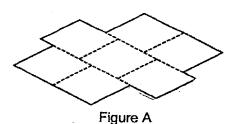


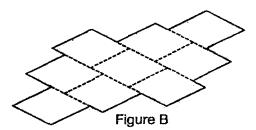
Ans: cm

2. The average of four whole numbers is 281. Two of the numbers are 371 and 109. What is the smallest difference between the remaining two numbers? Write down these two numbers.

Ans: Smallest Difference _____

3. Amy used 7 identical rhombuses to form figure A. Beth added 2 more such rhombuses to figure A to form figure B. The perimeter of Figure A is 156 cm. Find the perimeter of Figure B

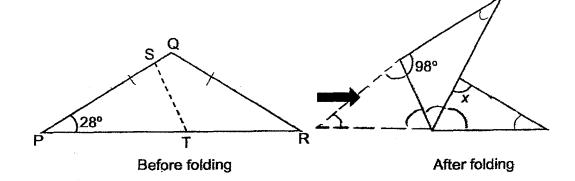




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4. A piece of paper in the shape of an isosceles triangle, PQR, is folded along the dotted line ST as shown below. Find ∠x.

Ans:



Ans: _____°

Please do not write in the margin.

cm

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Danny and Eric started jogging from Point A to Point B at the same time. Both did not change their speeds throughout. After 20 minutes, Danny was 200 m behind Eric. When Eric completed the remaining distance of 5 km, Danny was 600 m away from Point B. What was Danny's jogging speed?

Please do not write in the margin.

Ans:

m/min

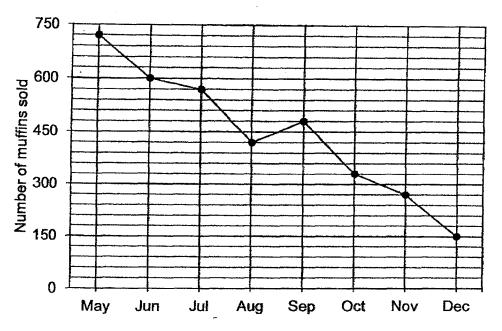
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For questions 6 to 17, show your working clearly and write your answers in the provided. The number of marks available is shown in the brackets [] at the e question or part-question.	
questorr or part-question.	(45 marks)

6. At first, Jason had \$210 and Ruth had \$154. After they both spent an equal amount of money, the amount of money Jason and Ruth each had left were in the ratio 7:3. How much did each of them spend?

	•
Ans:	[3]

The graph below shows the number of muffins a bakery sold each month from May to December.



(a) Find the average number of muffins sold per month from May to August.

Ans:	(a)		1
/11 i3.	lαi	 f.	

(b) Based on the number of muffins sold from October to December, the bakery wants to increase the number of muffins sold by 30% in the first 3 months of next year. What is the targeted total number of muffins to be sold in the first 3 months of next year?

Ans: (b)	[2]
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- 8. Four children received their scores for a quiz. Ariel scored 8x points. Bella scored 12 points more than Ariel. The number of points Bella scored was half the number of points Charlene scored. Darrell scored 7 points.
 - (a) Complete the table below to show the number of points Bella and Charlene each scored. The number of points Agiriel and Darrell scored has been filled in for you. Give your answer in terms of x in the simplest form. [1]

Names	Number of points
Ariel	8x
Bella	
Charlene	
Darrell	7

(b) Find the total score of the four children when x = 15.

É	3	L	

Ans: (b)[2]
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Ans: _____[3]

- 10. Boxes A and B contain an equal number of coins. $\frac{1}{4}$ of the coins in Box A are 10-cent coins while the rest are 50-cent coins. $\frac{1}{3}$ of the coins in Box B are 10-cent coins while the rest are 20-cent and 50-cent coins.
 - (a) Given that the total value of all the coins in Box A is \$86.40, find the total number of coins in Box B.

Ans: (a	a)	[2]
. a.o. (.	۰,	 r	٠,

(b) The total value of all the coins in Box B is \$50.10. Find the number of 20-cent coins in Box B.

Please do not write in the margin.

Ans: (b) ______[3]

Storewide Closing Down Sale

1st item at 40% discount

2nd item at 50% discount

Price of the 2nd item should be equal to or lower than price of the 1st item

Mary and Gary each bought two items at the store during the sale.

(a) Mary bought 2 different bags. The original price of one of the bags was \$280 while the original price of the other bag was \$499. How much did she pay in total for both bags?

Ans: (a) _____[1

(b) After discount, Gary spent \$1669.80 on two identical watches. Find the price of each identical watch before discount.

Ans: (b) ______[2]

	Number of tubs	
water the same of	Small (E	BigkL.
Q	15	9
R	10	15
S		300

(a) What is the total amount of money collected by shops Q and R from the sale of all the small and big tubs of ice cream?

Ans: (a) _____[2]

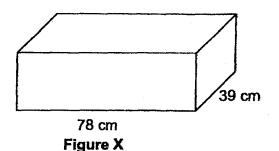
(b) Shop S sold as many tubs of ice-cream as Shop Q but collected \$66 more. How many small tubs of ice-cream did Shop S sell?

Ans: (b) _____[2]

Machine A	Machine B	Machine C
360 posters per hour	180 posters per hour	230 posters per hour

At 1100, Gwen started to print posters using only Machine A. Half an hour later, while machine A continued printing, she started printing posters with machines B and C as well. How long would machine B and C take to print the same number of posters as Machine A? Express your answers in hours and minutes.

Ans: _____[3]



9 cm \$\psi_6 cm

78 cm

Figure Y

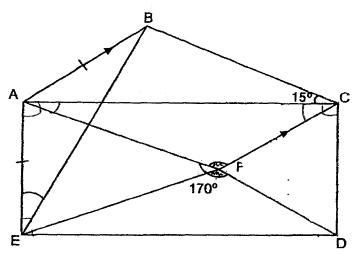
From the block of wood, Kevin cut out a stand with identical steps on both sides as shown in figure Y. Each step measures 6 cm in height and 9 cm in length.

(a) What is the height of the original block of wood?

Ans: [1]

(b) Find the volume of the block of wood used for figure Y.

Ans: _____[3]



(a) Find ∠AFC.

Please do not write in the margin.

Ans: (a) _____[1]

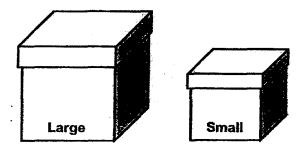
(b) Find ∠AEB.

(b) _____[3]

(c) Circle the words that describe ABCF correctly in the following statement:

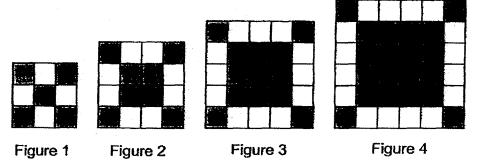
ABCF (is / is not) a parallelogram because AF (is / is not) parallel to BC.[1]

16. Joanne completely packed two types of boxes, large and small, with identical bottles of oil. After she packed 14 large boxes and 18 small boxes completely with 1914 bottles of oil, she had some bottles remaining.



She could not completely pack another large box with the remaining bottles as she was short of 15 bottles. Instead, she completely packed another small box and had 12 bottles left. How many bottles did Joanne have?

Ans: _____[4]



(a) The table shows the number of grey and white squares for the first 4 figures. Complete the table for Figure 5. [1]

Figure	Number of grey	Number of white	Total number of
Number	squares used	squares used	squares used
1	5	4	9
2	8	8	16
3	13	12	25
4	20	16	36
5			
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У	•	•	•

- Question 17 (b) and (c) continue on the next page.

17. (continued)

(b) Jaya used 1004 white squares to form a figure. What was the total number of white and grey squares used for the figure?

Ans:	「ク
, ,,,,,,	 <u></u>

Please do not write in the margin.

(c) In the table above, the difference between the total numbers of squares used in Figure x and Figure y is 497. Find the value of the y.

Ans: _____[2]

Please do not write in the margin.

Setters: Mdm Ong Li Ling, Mrs Elaine Chua, Mr Darren Lau, Mrs Irene Tan & Mrs Esther Ang

 $(x,y) = (x-y)g_{\overline{Y}} + (y-y) \frac{1}{2} (y-y)$

* **%**

ANSWER KEY

YEAR : 2024

LEVEL

: PRIMARY 6

SCHOOL : HENRY PARK

SUBJECT: MATHEMATICS

TERM

: PRELIMINARY

BOOKLET A (PAPER 1)

 $10 \times 2 = 20$ 20 - 9 = 11m

Q1 3 Q2 . 1	1(~)\\\X\\3 \\	10 Q4	2	Q 5	1
Q6 3 Q7\\	4 Q8	4 09	3)	Q10	2
Q11 2 Q12	2 Q13	2 014	3	Q15	3

QII	2 444	Q13		(X4 (3) (L13) 3	
BOOK	BOOKLET B (PAPER 1)				
Q16	$\left \frac{8}{1} x \frac{5}{4} = \frac{10}{1} \right = 10$		Q17	24 & 48	
Q18	50060g		Q19	4u = 336	
				1u = 336 \div 4 = 84 \ 12u = 84 x 12 = 1008	
Q20			Q21	a) 5:6:9 b) Plant C Difference: 29cm	
Q22	1200 x 2 = 2400		Q23	420 x 5 = 2100	
	20 x 20 = 400 2400 ÷ 400 = 6cm			2100 = 3 = \$00 700 x \$ = \$500ml	
Q24	216 ÷ 6 = 36 75% of \$ → 36 100% of \$ → 36 ÷ 3 *4 = 4 48 + 15 = \$63	D 1	025	a) North – West	
				Jan Doroce	
				Ø S E S S S E S S S S S S S S S S S S S	
Q26			Q27	$\frac{22}{7} \times \frac{3}{4} \times 56 = 132$	
	$40 \div 4 = 10 \text{ (y)}$			132 + 28 + 28 = 188cm	

	y		
		<u> </u>	
Q28		Q29	
	25 x 3 = 75		
	$75 \div 5 = 15$		
	15 x 2 = 30 raisin cookie		
	9	İ	
	100		
Q30	<rsu 180°-="" 70°="110°</th" →=""><th></th><th>Linkala Labados Labados La Marabos La Marabo</th></rsu>		Linkala Labados Labados La Marabos La Marabo
QJU	$<$ TRS \rightarrow 180° - 45° - 110° = 75°		
	$<$ VRT \rightarrow (70÷2) - 25° = 10°		
L	V \ /	· ()	27-
PAPE	32 IPI Y	.)	05/0
I AII LI			<u> </u>
Q1	1 5 0 50	Q2	Smallest difference:0
~~.	$\frac{1}{2} \times 5 \times 9 \leq 54$	V(Z	Numbers : 322, 322
	54 x 2 = 108		113.13.13.13.13.13.13.13.13.13.13.13.13.
	$108 \div 15 = 7/2$ cm		
Q3	12u→156 /	Q4	180° - 98° - 28° = 54°
	$1u \to 156 + 12 = 13$	-	180° - 54° - 54° = 72°
Pa. 000	$16u \rightarrow 13/x \ 16 = 208cm$		180° - 72° - 28° = 80°
Q5	<u>E</u>	Q6	210 – 154 = 56
	5000 ÷ 40 = 125		4u = 56
	Dist in 20min \rightarrow 125 x 20 = 2500		$1u = 56 \div 4 = 14$ $14 \times 7 = 98$
	\underline{D} Distin 20min \rightarrow 2500-200=2300		210 - 98 = \$112
	Speed = $(2300 \div 20 = 115 \text{m/min})$		
Q7	a) 7207-600 + 570 + 420 =	Q8	a)
~ ·	2310		Names Number of
	2310 >4=579.5		points
	b) 330 + 200 + 150 = 759		Ariel 8x
	100% → 75€ (
	1% → 7.5	777	Charlene 16x + 24
	$130\% \rightarrow 7.5 \times 130 = 975$		Darrell 7
			b) 8x+8x+16=32x
			32x→15x32=480
V	LootL		480+12+24+7=523
Q9	$3.14 \times 4 \times 4 \times \frac{1}{2} = 25.12$	Q10	a) Val in lgrp \rightarrow 150 + 10 = 160
1		4	8640 ÷ 160 = 54
	$3.14 \times 8 \times 8 \times \frac{1}{2} = 100.48$		54 x 4 = 216 coins
	Breadth of rec = 4+8=12		b) 5010 - 720 = 4290
	Area of rec = 12 x 24 = 288		216 - 72 = 144 144 x 50 = 7200
	$288 - 100.48 - 25.12$ $= 162.4cm^{2}$		7200 – 4290 = 2910
	- 107.40M		

	T .	Т	
		 	29.10 ÷ 0.30 = 97
Q11	a) 60% x 499 = 299.40	Q12	a) $15s \rightarrow 12 \times 25 = 300$
	50% x 200 = 140	1	$24B \rightarrow 24 \times 18 = 432$
	140 + 299.40 = \$439.40	1	300 + 432 = \$732
	b) 200% - 40% - 50% =		b) 15 + 9 = 24
	110%		$60 \div (18 - 12) = 11$
	110% → 1669.80		24-1-9=4
	1% → 1669.80 ÷ 110		
	=15.18		
••	200% → 15.18 x 200		
	= 3036	()	0 ~
	3036 ÷ 2 = \$1518\	190	7570
	11/0/1		
Q13	360 ÷ 2 = 1/80	Q14	a) 6 x 4 = 24cm
	180 + 230 = 410 (B+C)		b) 24 x 24 x 39 = 22464
	410 - 360 = 50		(9 x 6 x 39) x 12 = 25272
	180 ÷ 50 = 3.6h		$22464 + 25272 = 47736cm^3$
	ANS : 3h 36min		\.0
Q15	a) 360° - 170° - 60° = 130°	Q16	12 + 15 = 27
	b) 90° - 60° = 30°		27 x 14 = 378 \
	(180° - 90° - 30°)÷ 2		1914 – 378 = 1536 \ ()
	≢30°		14 + 18 = 32
	Sisnot /is not		$1536 \div 32 = 48$
			1914 + 48 + 12 = 1974
Q17	a Figure 5		$/ / \sim$
	Grey → 29		/ /\)
	_Mhita → 20		
	Total → 49		
	b) 1004 ÷ 4 = 251		/ 0
	251+2=253		
	253 x 253 = 64009	1	7/0)
	c) 497 – 7 = 490 \	H7($\lambda(, \vee)$
	490 ÷ 2 = 245	V -	
	245 + 2 = 247	:	