603 / SA1 / 9

CATHOLIC HIGH SCHOOL

MID-YEAR EXAMINATION (2022)

PRIMARY SIX

MATHEMATICS

PAPER 1

(BOOKLET A)

Name : _____( )

Class : Primary 6_____

Date : 11 May 2022

Total time for Booklet A and B : 1 hour

15 questions

20 marks

Parent's signature : _____

INSTRUCTIONS TO CANDIDATES

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

Follow all instructions carefully.

Answer all questions.

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

The use of calculators is **NOT** allowed.

This booklet consists of 8 printed pages.

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 oval (1, 2, 3 or 4) on the Optical Answer Sheet. All diagrams are not drawn to scale. (20 marks)

1. The number of visitors who at an amusement park was 30 000 when rounded to the nearest hundred. Which of the following was a possible number of visitors?

(1) 29 949

(2) 29 963

(3) 30 053

(4) 30 097

2. Express $6\frac{2}{5}$ as a decimal.

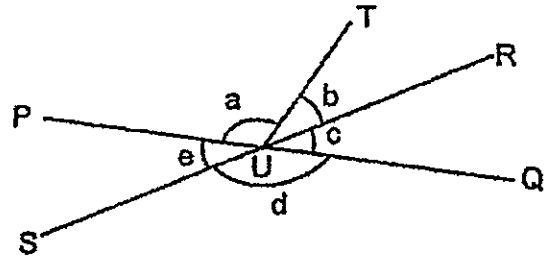
(1) 6.04

(2) 6.20

(3) 6.25

(4) 6.40

3. PUQ, SUR and TU are straight lines.



Which of the following statements is true?

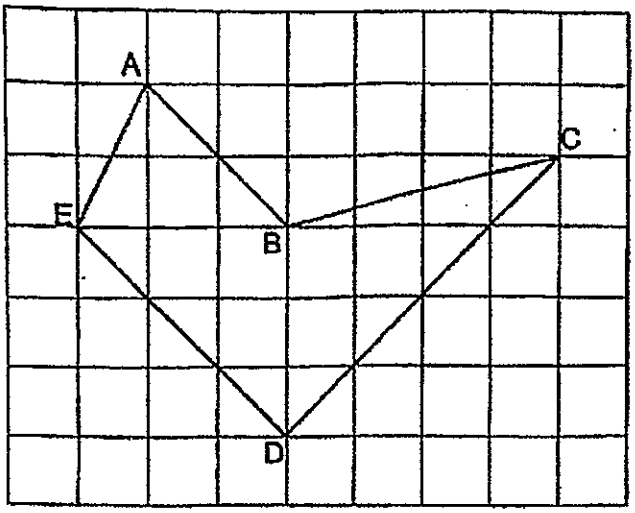
(1) $\angle a = \angle d$

(2) $\angle b = \angle e$

(3) $\angle a + \angle b = \angle d$

(4) $\angle b + \angle c = \angle e$

4. Which two lines are parallel to each other?



(1) AB and ED

(2) BC and CD

(3) AE and CD

(4) ED and DC

---

5. Which of the following numbers is the smallest?

(1) 0.780

(2) 0.087

(3) 0.708

(4) 0.807

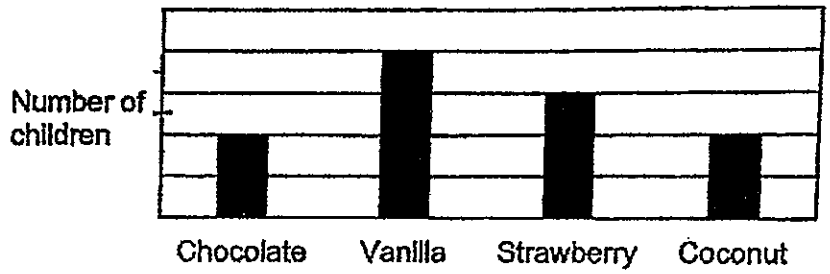
(Go on to the next page)

6. A group of children was asked to choose an ice-cream flavour. The children's choices were represented in a table and a bar graph below.

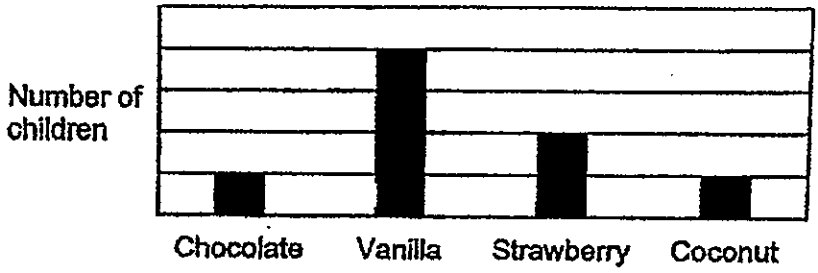
Ice-cream flavour	Chocolate	Vanilla	Strawberry	Coconut
Number of children	20	60	40	20

Which of the following bar graphs represents the children's choices as shown in the table above?

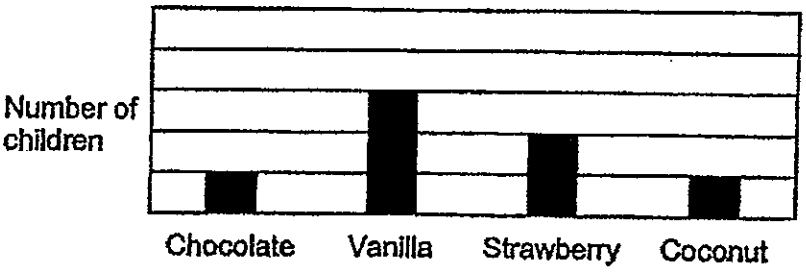
(1)



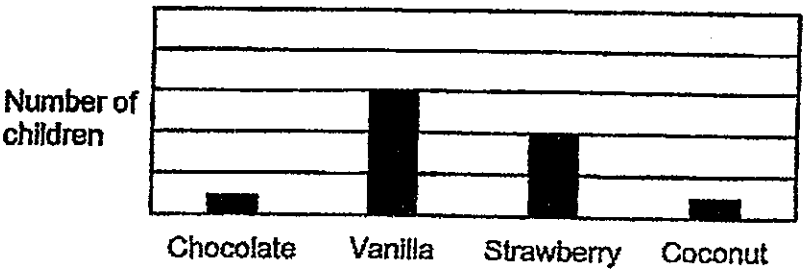
(2)



(3)



(4)



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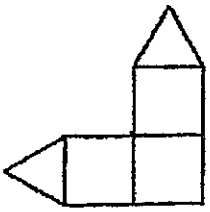
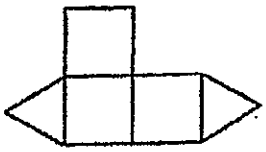
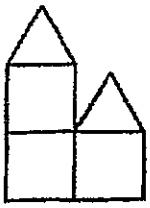
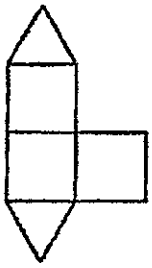
7. Each figure is made up of 3 identical squares and 2 identical triangles. Which of the following figures has a line of symmetry?

(1) 

(2) 

(3) 

(4) 

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8. Express $8n - 1 - 5n + 6$ in the simplest form.

(1) $3n - 7$

(2) $3n + 5$

(3) $13n - 7$

(4) $13n + 5$

(Go on to the next page)

9. A restaurant opens every day for the time shown in the table below. For how long is the restaurant open each day?

Opening hours
11.30 a.m. to 3.00 p.m.
5.30 p.m. to 9.30 p.m.

(1) 6 h 30 min

(2) 7 h 30 min

(3) 8 h 30 min

(4) 9 h 30 min

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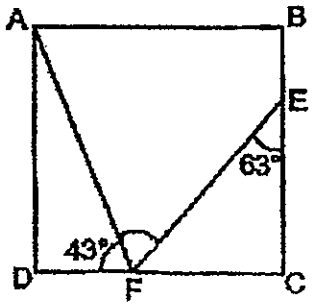
10. In the figure, ABCD is a square. $\angle FEC = 63°$ and $\angle AFD = 43°$. Find $\angle AFE$.



(1) 70°

(2) 74°

(3) 106°

(4) 110°

---

11. Arrange these masses from the lightest to the heaviest.

2.305 kg	$2\frac{3}{5}$ kg	2 kg 35 g

	Lightest		Heaviest
(1)	2 kg 35 g	2.305 kg	$2\frac{3}{5}$ kg
(2)	2.305 kg.	2 kg 35 g	$2\frac{3}{5}$ kg
(3)	$2\frac{3}{5}$ kg	2.305 kg	2 kg 35 g
(4)	2.305 kg	$2\frac{3}{5}$ kg	2 kg 35 g

---

12. The price of a tennis racket was $40. Sam bought one such tennis racket and had to pay 7% GST on the price. How much did he pay for the tennis racket?

(1) $2.80
(2) $37.20
(3) $42.80
(4) $47.00

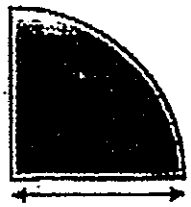
---

13. The chairs in a hall were arranged in rows. Each row had the same numbe of chairs. Eric sat on one of the chairs. There were 3 chairs to his right and 8 chairs to his left. There were 4 rows of chairs in front of him and 9 rows of chairs behind him. How many chairs were there altogether in the hall?

(1) 25
(2) 60
(3) 143
(4) 168

(Go on to the next page)

14. The figure below shows a quarter circle of radius 10 cm.
What is the area of the figure? Leave your answer in terms of π.



10 cm

(1) 5π cm^2

(2) 25π cm^2

(3) $(5\pi + 20)$ cm^2

(4) $(100\pi + 20)$ cm^2

---

15. Richard had two bags containing the same number of marbles. There was a mixture of blue and red marbles in each bag. The ratio of the number of blue to red marbles was 2 : 7 in the first bag and 1 : 3 in the second bag. What fraction of the total number of marbles were blue marbles?

(1) $\frac{3}{13}$

(2) $\frac{17}{36}$

(3) $\frac{17}{72}$

(4) $\frac{55}{72}$

END OF BOOKLET A

CATHOLIC HIGH SCHOOL

MID-YEAR EXAMINATION (2022)

PRIMARY SIX

MATHEMATICS

PAPER 1

(BOOKLET B)

Name : _____( )

Class : Primary 6_____

Date : 11 May 2022

Total time for Booklet A and B : 1 hour

15 questions

25 marks

Parent's signature : _____

BOOKLET A	20
BOOKLET B	25
Total Marks	45

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.

This booklet consists of 9 printed pages and 1 blank page.

Questions 16 to 20 carry 1 mark each. Write your answers in the spaces provided. For questions which require units, give your answers in the units stated. All diagrams are not drawn to scale. (5 marks)

Do not write in this space

16. Express 10 043 cm in metres.

Ans:_____m

17. Write down all the common factors of 12 and 16.

Ans:_____

18. Henry spent $8 on 16 apples. The cost of each apple was the same. How much did 1 such apple cost?

Ans: $_____

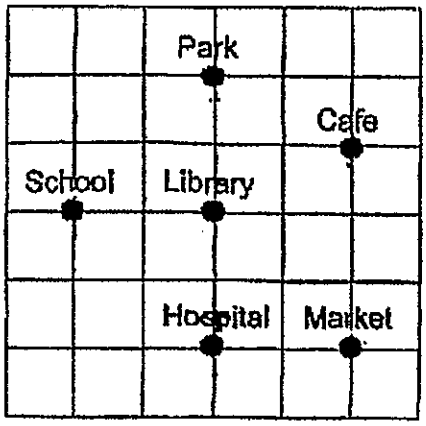
(Go on to the next page)

19. What is the value of $75 - (28 + 4 \div 3) + 15$?

Do not write in this space

Ans: _____

20. In the square grid below, Janice was at one of the landmarks facing the market. When she turned 135° anti-clockwise, she faced the school. Which landmark was Janice at before she turned to face the school?



Ans: _____

Total marks for questions 16 to 20

5

(Go on to the next page)

Questions 21 to 30 carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. All diagrams are not drawn to scale.

(20 marks)

Do not write in this space

21. Express $\frac{6}{7}$ as a decimal.

Give your answer correct to 1 decimal place.

Ans: _____

22. June uses the recipe below to make some tarts.

Tart Recipe (makes 5 pieces)	
Flour :	250 g
Butter:	150 g
Sugar:	50 g

She has 750 g of flour, 350 g of butter and 130 g of sugar.
What is the greatest number of pieces of tarts she can make?

Ans: _____

(Go on to the next page)

23. Use all the digits 7, 0, 5, 8 to form

(a) the smallest multiple of 5

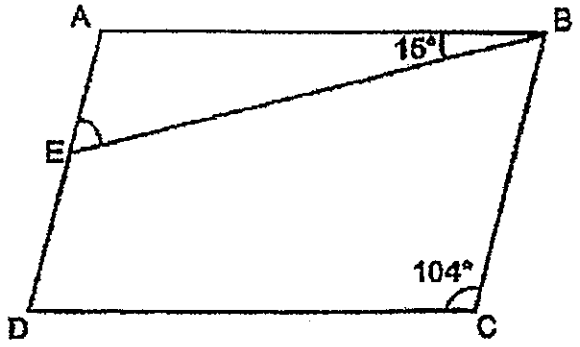
(b) the number closest to 8000

Do not write in this space

Ans: (a)_____

(b)_____

24. ABCD is a parallelogram. $\angle ABE = 15°$ and $\angle BCD = 104°$. E is a point on line AD. Find $\angle AEB$.



Ans: _____ °

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25. The solid is made up of 7 unit cubes.
Draw the top view and side view of the solid on the square grid below.

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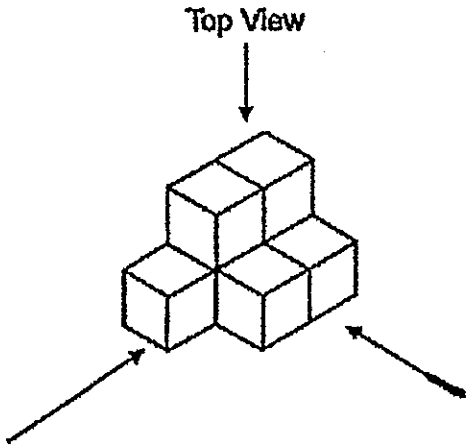
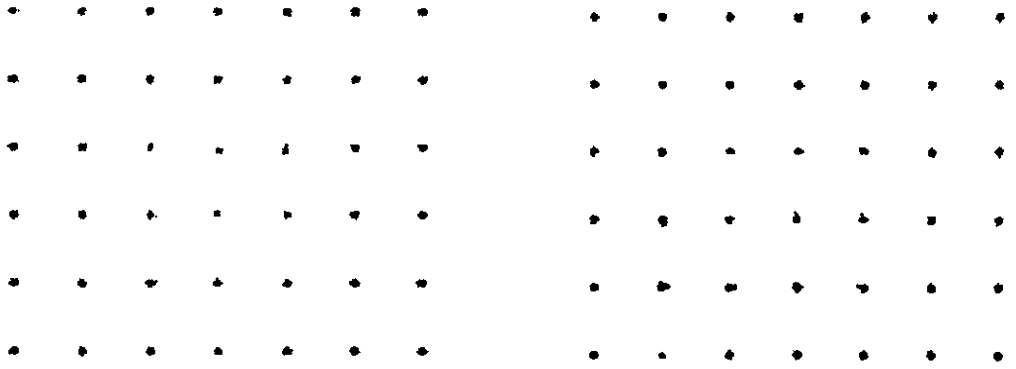




Top View

Side View

(Go on to the next page)

26. Kumar travelled 8 km in a taxi from home to the shopping centre. His taxi fare was based on the charges shown below.

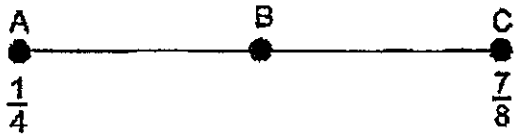
First km	$3.90
Every additional 500 m or part thereof	$0.30

How much was his taxi fare?

Ans: $_____

Do not write in this space

27. In the number line below, A represents $\frac{1}{4}$ and C represents $\frac{7}{8}$.
B is the mid-point between A and C. What fraction is represented by B?

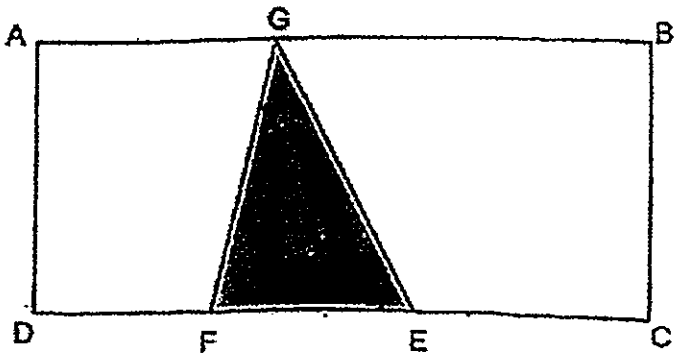


Ans: _____

(Go on to the next page)

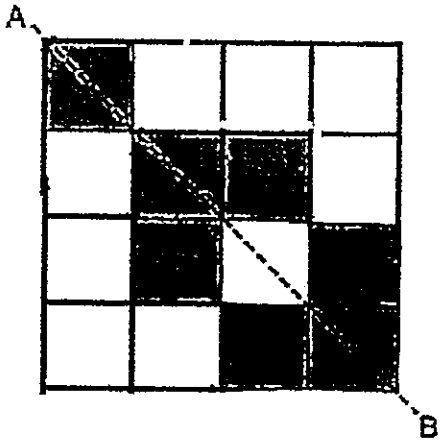
28. ABCD is a rectangle. G, E and F lie on the sides of the rectangle. The length of CD is thrice the length of EF. The area of the shaded triangle FGE is 16 cm². What is the area of rectangle ABCD?

Do not write in this space



Ans: _____ cm²

29. The following figure is made of 16 squares. 9 squares are shaded in the figure. Shade 2 squares to form a symmetric figure with AB as the line of symmetry.

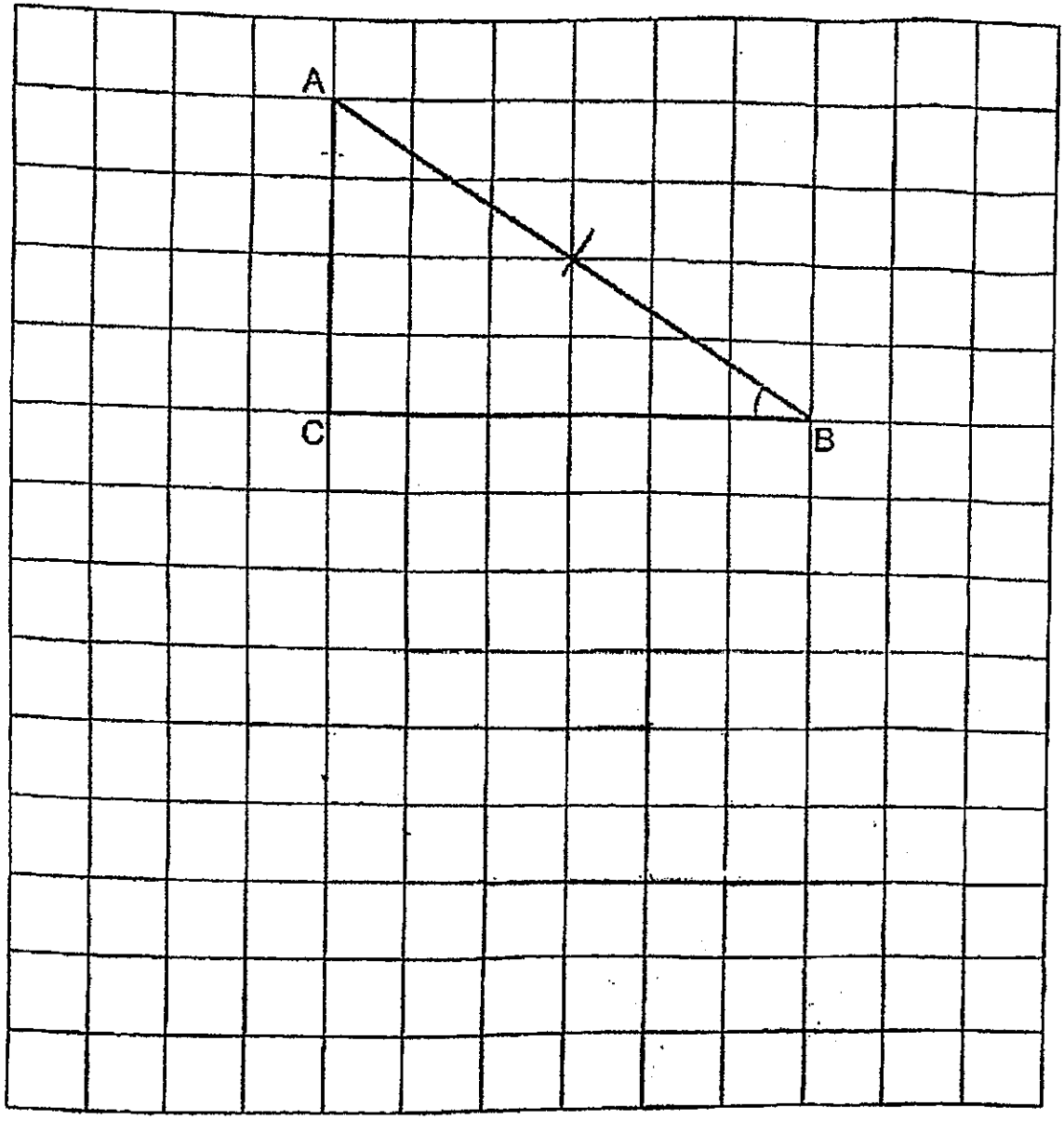


(Go on to the next page)

30. **In the square grid below,triangle ABC has been drawn.**

(a) Measure and write down the size of ∠ABC.

(b) Draw a parallelogram in the square grid such that it has the same perimeter as triangle ABC. The parallelogram must not overlap with triangle ABC.



Ans: (a) _____ °

CATHOLIC HIGH SCHOOL
MID-YEAR EXAMINATION (2022)
PRIMARY SIX
MATHEMATICS
PAPER 2

Name : _____( )

Class : Primary 6_____

Date : 11 May 2022

Total time : 1 h 30 min

17 questions

55 marks

Parent's signature : _____

PAPER 1 BOOKLET A	20
PAPER 1 BOOKLET B	25
PAPER 2	55
Total Marks	100

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.

This booklet consists of 16 printed pages.

Questions 1 to 5 carry 2 marks each. Show your working clearly in the space below each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. All diagrams are not drawn to scale. (10 marks)

Do not write in this space

1. The sum of 4 numbers is 660. One of the numbers is 120. What is the average of the other 3 numbers?

Ans: _____

2. Jenny paid $209 for a dress and 2 shirts. The price of a shirt is $\frac{3}{5}$ of a dress. How much did Jenny pay for the dress?

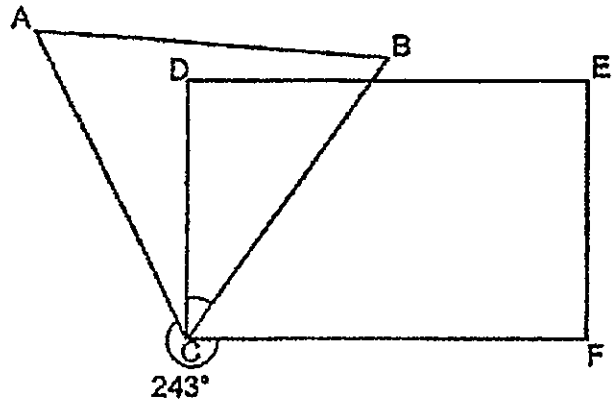
Ans: $_____

3. Colin and Jake ran in a marathon. Jake completed the marathon 20 minutes earlier than Colin. The total amount of time taken by both of them to complete the marathon was 110 minutes. How much time did Colin take to complete the marathon?

Do not write in this space

Ans: _____ min

4. In the figure below, ABC is an equilateral triangle and DEFC is a rectangle. $\angle ACF = 243°$. Find $\angle DCB$.



Ans: _____ °

(Go on to the next page)

5. Andy and Betty were given some coins each. Andy was given 5 more coins than Betty. Andy was given twenty-cent coins and Betty was given fifty-cent coins.

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 (✓) in the correct column.

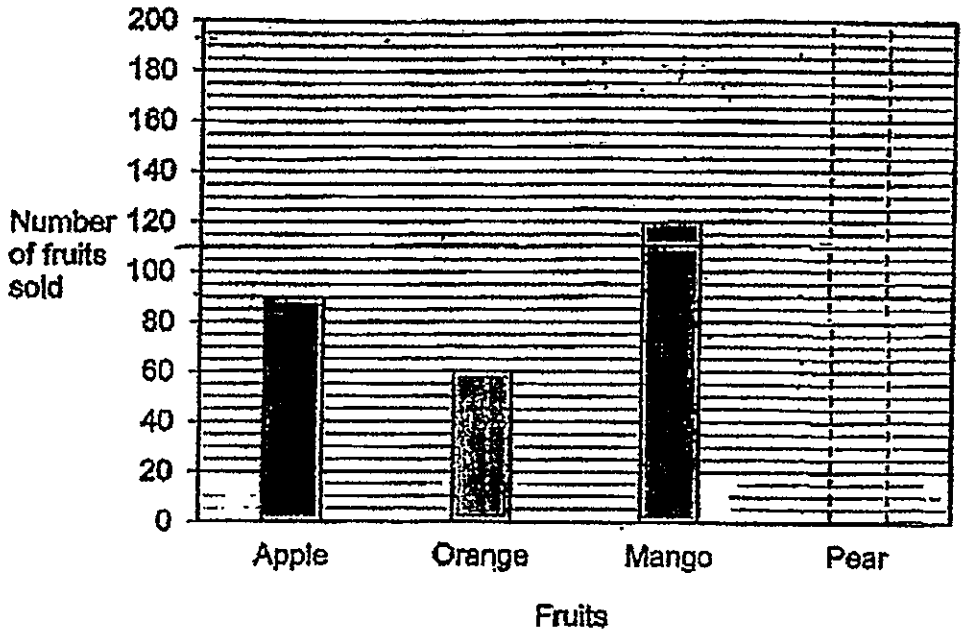
	Statement	True	False	Not possible to tell
(a)	The amount of money given to Andy was more than the amount of money given to Betty.			
(b)	The difference in the amount of money between Andy and Betty remained the same after they lost a coin each.			

(Go on to the next page)

For questions 6 to 17, show your working clearly in the space provided for each question 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)

Do not write in this space

6. The bar graph below shows the number of fruits sold at a stall on Monday.



[1]

(a) The total number of fruits sold on Monday was 380.
Draw the bar that shows the number of pears sold on Monday.

(b) On Tuesday, the number of apples sold was 108. What was the percentage increase in the number of apples sold on Tuesday?

Ans: (a)_____ [2]

7. Mary had \$10y. She bought some toys at \$15 each and had \$40 left.

(a) How many toys did Mary buy? Give your answer in terms of y.

(b) If y = 25, find the number of toys Mary bought.

Do not write in this space

Ans: (a)_____ [1]

(b)_____ [2]

8. Mrs Ho bought $\frac{8}{9}$ m of string to make some bows. She used $\frac{1}{12}$ m of string to make each bow.

Do not write in this space

(a) How many such bows can she make at most?

(b) What was the length of the string left? Give your answer in the simplest form.

Ans: (a)_____ [1]

(b)_____ [2]

9. Mr Tan had green pens and black pens for sale. He had 275 more black pens than green pens. He sold 70% of the green pens and 20% of the black pens. The number of green pens and black pens sold was the same. How many black pens did he have at first?

Do not write in this space

Ans: _____ [3]

(Go on to the next page)

10. At a concert, the ratio of the number of adults to the number of children was 5 : 8 at first. After $\frac{2}{3}$ of the number of adults and 252 children left, thrice as many children as adults remained at the concert. How many people were there at the concert at first?

Do not write in this space

Ans: _____ [3]

11. At a bakery, buns are only sold in packets of 5 and muffins are only sold in packets of 2. The prices are shown below.

Do not write in this space

	
5 buns for $4	2 muffins for $3

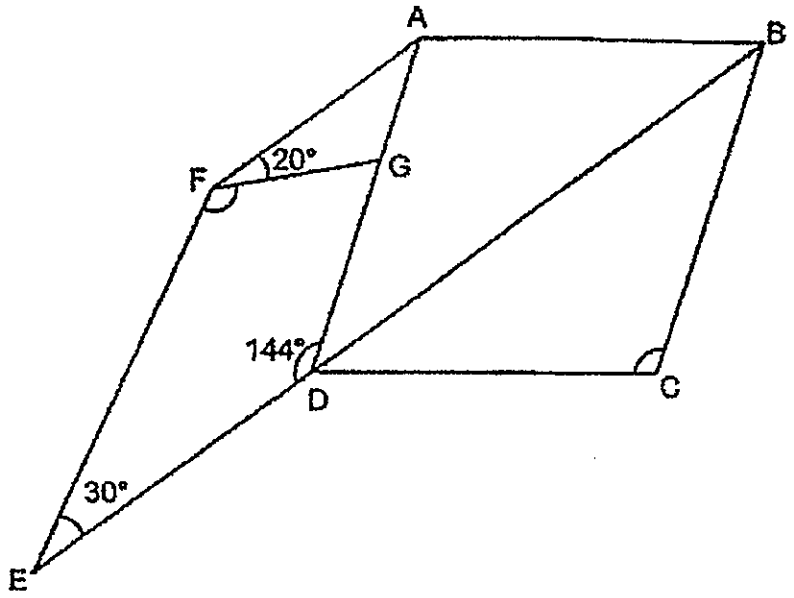
Michael spent the same amount of money on some buns and some muffins. He bought 56 more buns than muffins. How much did he spend on the buns and the muffins in all?

Ans: _____ [4]

(Go on to the next page)

12 In the figure below, ABCD is a rhombus and ABEF is a trapezium. G is a point on line AD. $\angle GDE = 144°$.

Do not write in this space



(a) Find $\angle$ BCD.

(b) Find $\angle$ EFG.

Ans: (a) _____ [2]

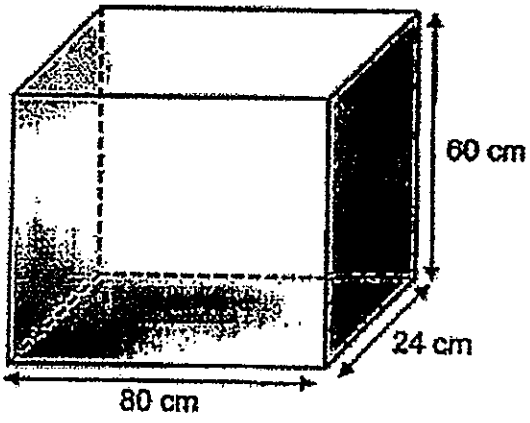
(b) _____ [2]

13. Tank A measures 80 cm long, 24 cm wide and 60 cm high. It is filled with water to the brim. $\frac{1}{3}$ of the water in Tank A is poured into an empty Tank B. Tank B has a square base of edge 20 cm.

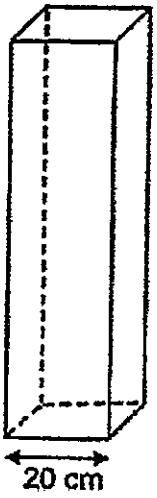
Do not write in this space

(a) What is the volume of water left in Tank A after $\frac{1}{3}$ of its water is poured into Tank B?

(b) What is the height of the water level in Tank B after water is poured in?



Tank A



Tank B

Ans: (a) _____ [1]

(b) _____ [2]

14. Mrs Lim bought a rice cooker for $224 after a discount of 20%.

(a) What was the price of the rice cooker before discount?

(b) She also bought a blender for $87.50 after discount. The total discount for the rice cooker and the blender was $93.50. What was the percentage discount given for the blender?

Do not write in this space

Ans: (a) _____ [1]

(b) _____ [3]

(Go on to the next page)

15. The figure is made up of shaded and unshaded squares.
The first three figures are shown below.

Do not write in this space

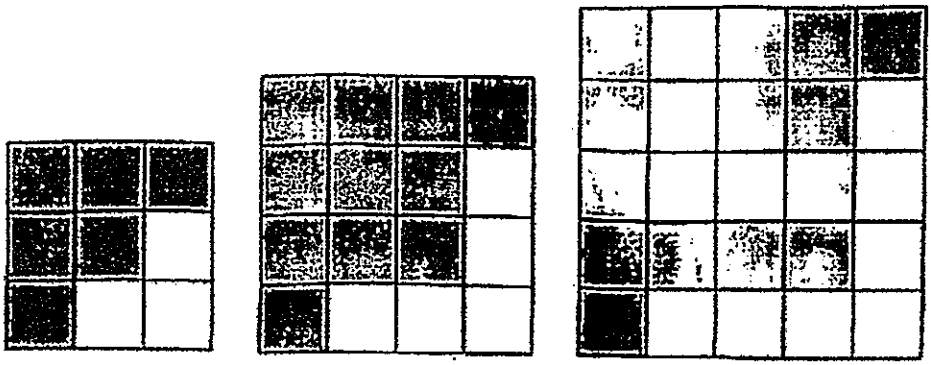


Figure 1 Figure 2 Figure 3

The table below shows the number of shaded and unshaded squares used for each figure.

Figure Number	Number of unshaded squares	Number of shaded squares	Total number of shaded and unshaded squares
1	3	6	9
2	5	11	16
3	7	18	25
4			36

[1]

(a) Complete the table for Figure 4.

(b) What is the total number of shaded and unshaded squares used for Figure 33?

(c) There are 53 unshaded squares used for one of the figures.
How many shaded squares are used for that figure?

Ans: (b) _____ [2]

(c) _____ [2]

16. Li May spent $\frac{4}{7}$ of her money on 22 tarts and 46 cupcakes. One cupcake cost as much as 3 tarts. She bought some more tarts with $\frac{1}{6}$ of her remaining money. She spent a total of $315. How much did she spend on the cupcakes?

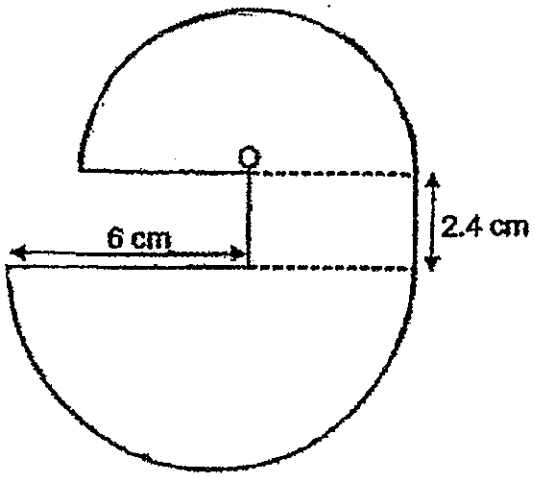
Do not write in this space

Ans: _____ [5]

(Go on to the next page)

17 The figure below is formed by a small semicircle, a big semicircle and a rectangle. O is the centre of the small semicircle. The perimeter of the rectangle is 12.8 cm.

Do not write in this space



(a) What is the diameter of the small semicircle?

(b) Find the perimeter of the shaded figure. Take $\pi = 3.14$.

Ans: (a)_____ [1]

(b)_____ [4]

END OF PAPER 2

SCHOOL : CATHOLIC HIGH PRIMARY SCHOOL
LEVEL : PRIMARY 6
SUBJECT : MATH
TERM : 2022 SA1

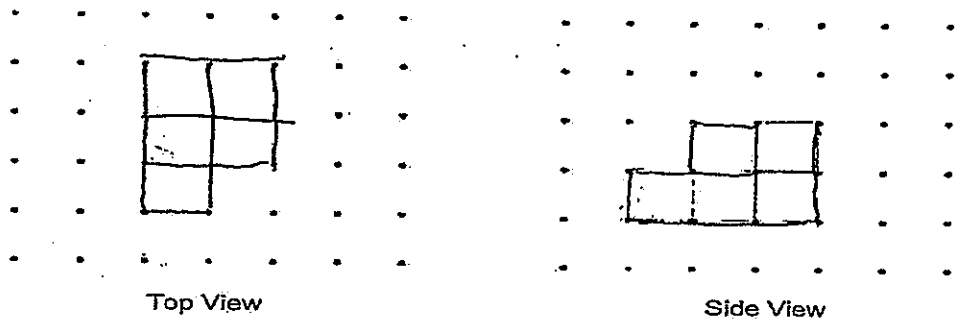
PAPER 1 BOOKLET A

Q 1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
2	4	3	1	2	3	1	2	2	4

Q 11	Q12	Q13	Q14	Q15
1	3	4	2	3

PAPER 1 BOOKLET B

Q16)	$\frac{10043}{100} = 100.43$ m
Q17)	12: 1 x 12, 2 x 6, 3 x 4 16: 1 x 16, 2 x 8, 4 x 4 Ans: 1 ,2 ,4
Q18)	$\frac{8}{16} = \frac{1}{2}$ $= \$0.50$
Q19)	$75 - (28 \div 4 + 3) + 15$ $= 75 - (7 + 3) + 15$ $= 75 - 10 + 15$ $= 80$

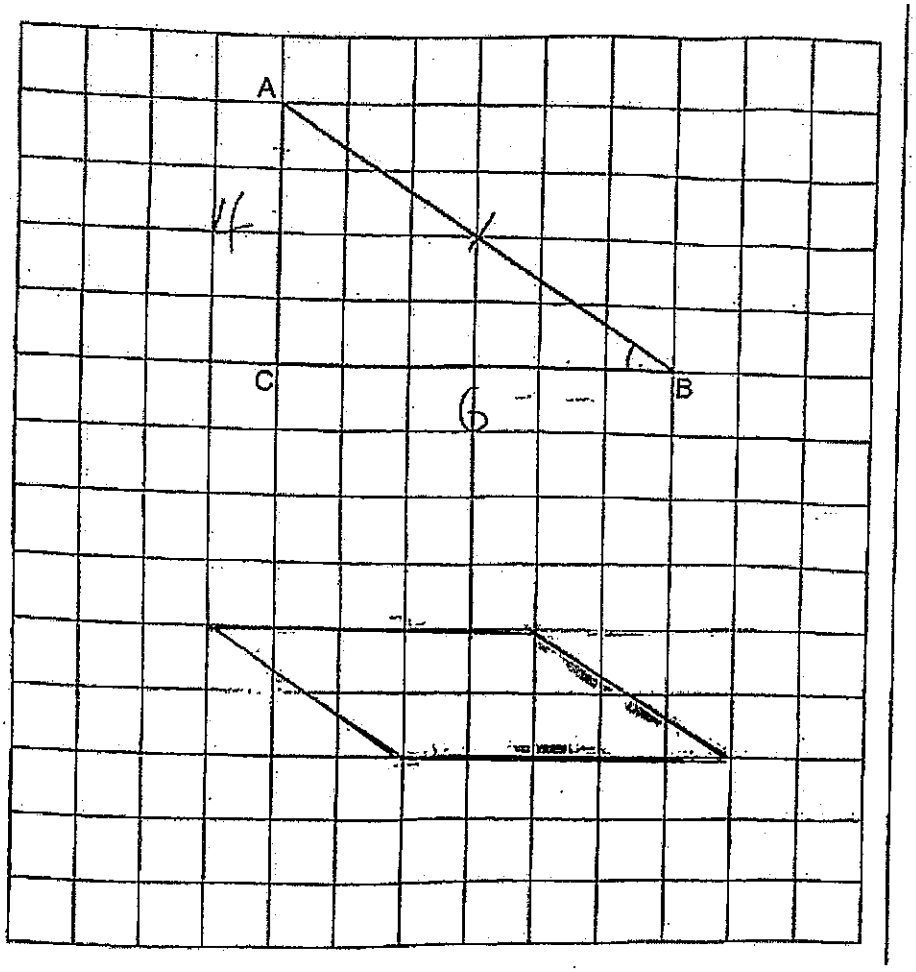
Q20)	Hospital
Q21)	$\frac{6}{7} = 0.85$ ≈ 0.9 (1 d.p.)
Q22)	$130 \div 50 = 2$ R 30 $2 \times 5 = 10$
Q23)	(a) 5780 (b) 7850
Q24)	$< AEB = 180° - 104° - 15°$ $= 61°$
Q25)	 Top View Side View
Q26)	$8 - 1 = 7$ $\frac{7}{0.5} = 14$ $3.90 + (14 \times 0.30) = \$8.10$

Q27)	$\frac{1}{4} + \frac{7}{8}$ $\frac{9}{8} \div 2$ $= \frac{2}{8} + \frac{7}{8}$ $= \frac{9}{8} \times \frac{1}{2}$ $= \frac{9}{8}$ $= \frac{9}{16}$ Ans: $\frac{9}{16}$
Q28)	$\frac{1}{2}$ x 1u x H = 16 16 x 3 = 48 $\frac{1}{2}$ x 3u x H = 48 48 x 2 = 96 Ans= $96cm^2$
Q29)	

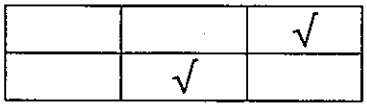
PAPER 2

Q1)	660 -120 = 540 $\frac{540}{3} = 180$
Q2)	Shirt ------ 3u 2 shirts ----- 6u } 11u dress ----- 5u $ 209 ÷ 11 = $ 19 $ 19 x 5 = $ 95

Q30)



a)34

Q3)	$110 + 20 = 130$ $\frac{130}{2} = 65$ min
Q4)	$< ACD = 360° - 90° - 243°$ $= 27°$ $< DCB = 60° - 27°$ $= 33°$
Q5)	
Q6)	a) $380 - 90 - 60 - 120 = 110$ b) increase $\longrightarrow$ $108 - 90 = 18$ % increase $\longrightarrow$ $\frac{18}{90} \times 100\% = 20\%$
Q7)	a) $\frac{10y - 40}{15}$ = number of toys bought b) $\frac{10(25) - 40}{15} = \frac{250 - 40}{15}$ $= \frac{210}{15}$ $= 14$
Q8)	a) $\frac{8}{9} \div \frac{1}{12} = 10\frac{2}{3}$ b) $\frac{1}{12} \times 10 = \frac{10}{12}$ $\frac{8}{9} - \frac{10}{12} = \frac{1}{18}$ m
Q9)	$7u = 2u + \frac{275}{10} \times 2$ $7u = 2u + 55$ $5u = 55$

	$u = 11$ black pens $= 11 \times 10 + 275$ $= 385$
Q10)	A : C 5 : 8 15 : 24 $\frac{2}{3}$ left ← 5 : 15 → 252 left $24u - 15u = 9u$ $252 = 9u$ $u = 28$ $28 \times 39 = 1092$
Q11)	Every \$12 , 15 buns bought Every \$12 , 8 buns bought $15 - 8 = 7$ $\frac{56}{7} = 8$ $8 \times 12 \times 2 = \$192$
Q12)	a) $< ADB = 180° - 144°$ $= 36°$ $< BCD = < BAD = 180° - (36° \times 2)$ $= 108°$ b) $< FAD = 36°$ $< EFG = 360° - 30° - 20° - 36° - 144°$ $= 130°$
Q13)	a) $\frac{80 \times 24 \times 60}{2}$ x 2 = $76800cm^3$ b) $\frac{80 \times 24 \times 60}{3}$ = 38400 $\frac{38400}{20 \times 20}$ = 96cm

Q14)

a) $\frac{224}{8}$ x 10 = $ 280

b) 280 – 224 = 56 (discount for the rice cooker)
$93.50 - $56 = $37.50 (discount for the blender)

Percentage discount = $\frac{discount}{total\ cost}$ x 100%

= $\frac{37.50}{37.5+87.5}$ x 100%

= 30%

Q15)

a)

3	7		
4	9	27	

b) (n+2) x (n+2) = total
(35) x (35) = 1225

c) $\frac{53-3}{2} = 25$ 26+2=28

Fig 26 used 28×28 − 53 = 731

~~(26 x 26) - 53 = 623~~

Q16)

1 cupkake = 3y

1 tart = 1y

$\frac{4}{7}$ n = 22y + 46 (3y) = 160y

$\frac{1}{14}$ n =? y

$315 = $\frac{4}{7}$ n + $\frac{1}{14}$ n = $\frac{9}{14}$ n

$\frac{1}{14}$ n = $35

$\frac{8}{14}$ n = $35x 8 = $280 = 160y

y = $1.75

	cupcakes = 46(3) (1.75) = $241.50
Q17)	a) 12.8 – (2.4 x 2) = 8cm b) perimeter = (2.4 x 2) + [6 + $\frac{10\ (3.14)}{2}$]+ [4 + $\frac{8\ (3.14)}{2}$] = 43.06cm

END