

**CATHOLIC HIGH SCHOOL**  
**MID-YEAR EXAMINATION (2021)**  
**PRIMARY SIX**  
**MATHEMATICS**  
**PAPER 1**  
**(BOOKLET A)**

Name : \_\_\_\_\_ ( )

Class : Primary 6 \_\_\_\_\_

Date : 10 May 2021

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.

Booklet A and B consist of 15 printed pages excluding the cover 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)

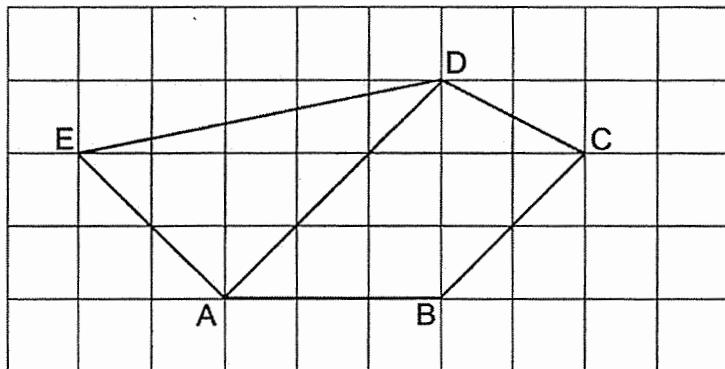
1. Which of the following is the same as 3070 m?

- (1) 3 km 7 m
- (2) 3 km 70 m
- (3) 30 km 7 m
- (4) 30 km 70 m

2. Round 21 905 to the nearest thousand.

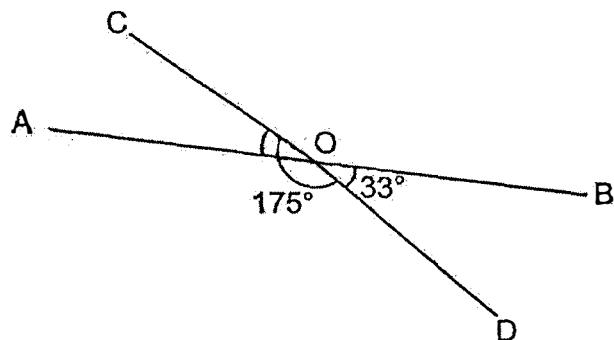
- (1) 20 000
- (2) 21 000
- (3) 21 900
- (4) 22 000

3. Which line in the square grid is perpendicular to AD?



- (1) AE
- (2) BC
- (3) CD
- (4) DE

4. In the figure,  $AOB$  is a straight line.  $\angle COD = 175^\circ$  and  $\angle BOD = 33^\circ$ .  
Find  $\angle AOC$ .



(1)  $28^\circ$   
 (2)  $33^\circ$   
 (3)  $142^\circ$   
 (4)  $147^\circ$

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5. Which one of the following is the same as  $3 \div \frac{2}{5}$ ?

(1)  $\frac{1}{3} \times \frac{2}{5}$

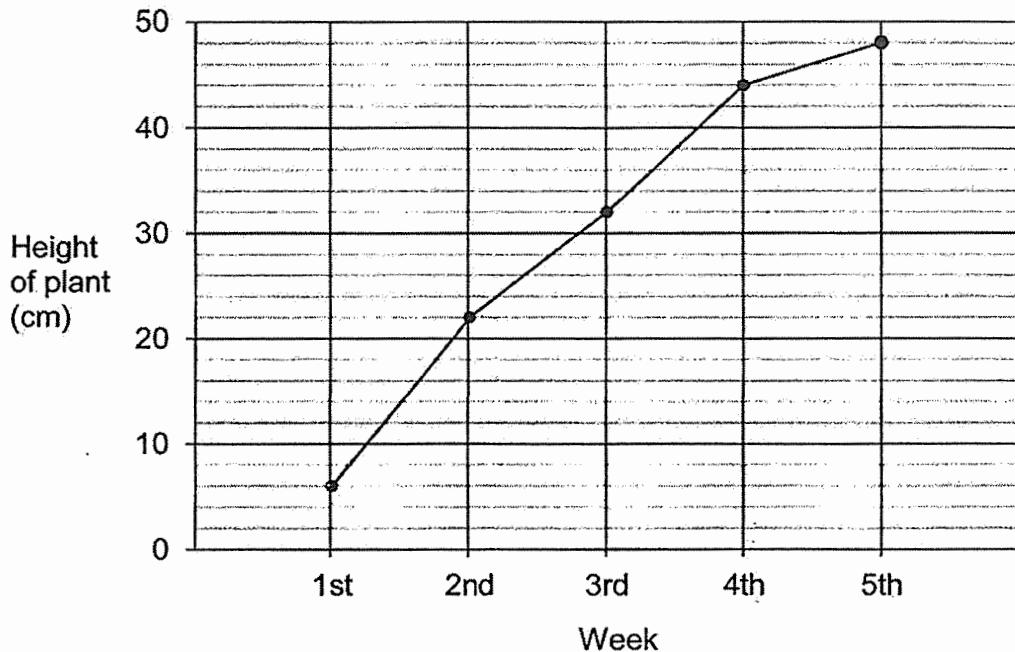
(2)  $\frac{1}{3} \times \frac{5}{2}$

(3)  $\frac{3}{1} \times \frac{2}{5}$

(4)  $\frac{3}{1} \times \frac{5}{2}$

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6. The graph shows the height of a plant measured at the end of each week over a period of 5 weeks.

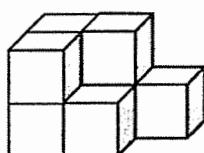


During which one-week period did the plant grow the most?

- (1) Between 1<sup>st</sup> and 2<sup>nd</sup> week
- (2) Between 2<sup>nd</sup> and 3<sup>rd</sup> week
- (3) Between 3<sup>rd</sup> and 4<sup>th</sup> week
- (4) Between 4<sup>th</sup> and 5<sup>th</sup> week

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7. The solid shown is formed using some unit cubes. How many unit cubes are used to form the solid?



- (1) 6
- (2) 7
- (3) 8
- (4) 9

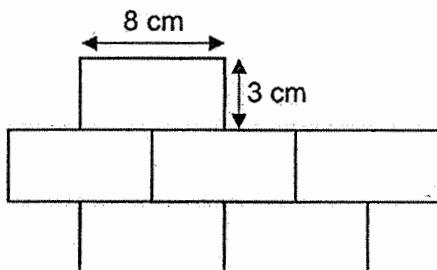
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8. Bing Xuan cycled around a park for 140 minutes. He finished cycling at 1.30 p.m. At what time did he start cycling?

(1) 3.10 p.m.  
(2) 3.50 p.m.  
(3) 11.10 a.m.  
(4) 11.50 a.m.

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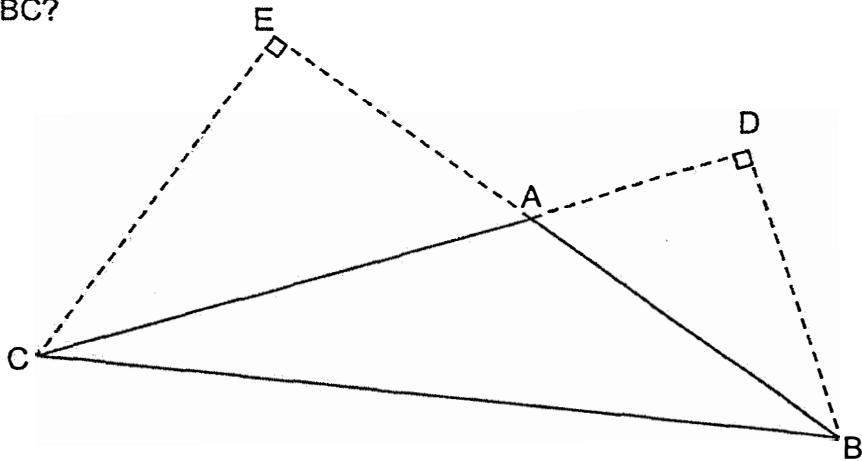
9. The figure below is made up of 6 identical rectangles. Each rectangle measures 8 cm by 3 cm each. What is the perimeter of the figure?



(1) 22 cm  
(2) 66 cm  
(3) 132 cm  
(4) 144 cm

---

10. In the figure below, ABC is a triangle. Given that AC is the base of triangle ABC, which is the height of triangle ABC?



- (1) AB
- (2) BC
- (3) CE
- (4) DB

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

1.45 kg	$1\frac{4}{5}$ kg	1 kg 405 g
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Lightest

Heaviest

(1)	1 kg 405 g	, 1.45 kg	, $1\frac{4}{5}$ kg
(2)	1 kg 405 g	, $1\frac{4}{5}$ kg	, 1.45 kg
(3)	$1\frac{4}{5}$ kg	, 1.45 kg	, 1 kg 405 g
(4)	1.45 kg	, $1\frac{4}{5}$ kg	, 1 kg 405 g

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12. The price of a teddy bear was \$30. Joey bought one such teddy bear and had to pay 7% GST on the price. How much did she pay for the teddy bear?

(1) \$2.10  
 (2) \$27.90  
 (3) \$32.10  
 (4) \$37

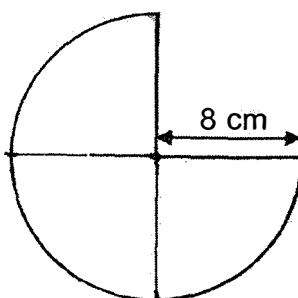
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13. Tara had  $\frac{5}{6}$  m of string. She cut the greatest number of pieces of  $\frac{1}{8}$  m each from the string. What was the length of the string left over?

(1)  $\frac{1}{12}$  m  
 (2)  $\frac{2}{3}$  m  
 (3)  $\frac{1}{6}$  m  
 (4)  $\frac{17}{24}$  m

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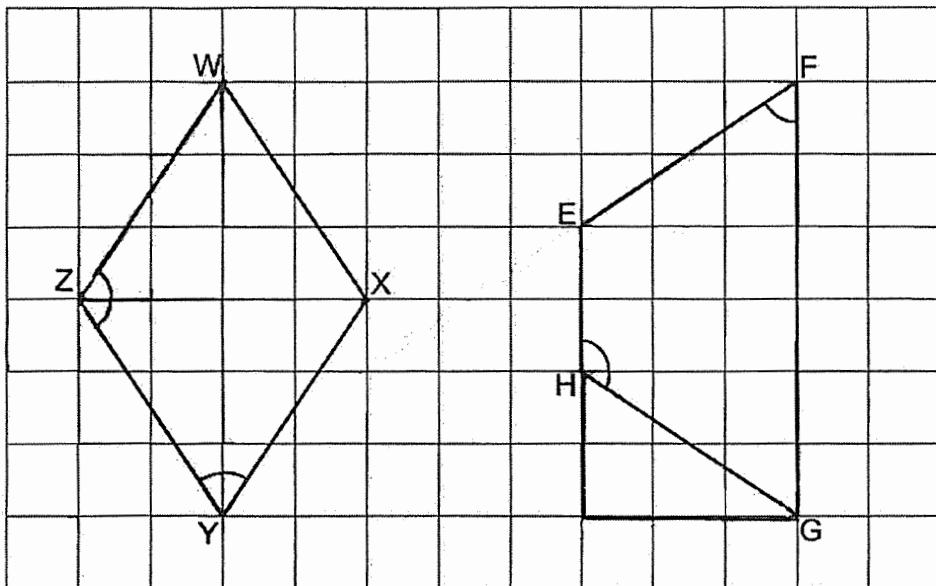
14. The figure is formed using a semicircle and a quarter circle of radius 8 cm. Find the perimeter of the figure. Leave your answer in terms of  $\pi$ .



(1)  $(6\pi + 16)$  cm  
 (2)  $(12\pi + 16)$  cm  
 (3)  $(16\pi + 16)$  cm  
 (4)  $(48\pi + 16)$  cm

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15. Rhombus  $WXYZ$  and Trapezium  $EFGH$  are shown in the square grid below.



Based on what is shown in the square grid, which of the following statement(s) is/are true?

Statement A :  $ZY$  is parallel to  $HG$ .

Statement B :  $\angle WZY$  is twice of  $\angle EFG$ .

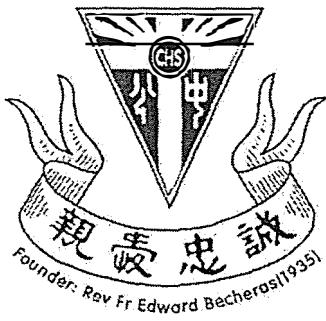
Statement C : Area of rhombus  $WXYZ$  is equal to area of trapezium  $EFGH$ .

- (1) A only
- (2) C only
- (3) A and B only
- (4) B and C only

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**END OF BOOKLET A**





**CATHOLIC HIGH SCHOOL  
MID-YEAR EXAMINATION (2021)  
PRIMARY SIX  
MATHEMATICS  
PAPER 1  
(BOOKLET B)**

Name : \_\_\_\_\_ ( )

Class : Primary 6 \_\_\_\_\_

Date : 10 May 2021

Total time for Booklet A and B : 1 hour

15 questions

25 marks

Parent's signature : \_\_\_\_\_

<b>BOOKLET A</b>	20
<b>BOOKLET B</b>	25
<b>Total Marks</b>	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.

Booklet A and B consist of 15 printed pages excluding the cover pages.



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. Write one million and twelve in numerals.

Ans: \_\_\_\_\_

17. List all the common factors of 27 and 45.

Ans: \_\_\_\_\_

18. What is the value of  $39 - 36 \div (5 + 4) + 3$ ?

Ans: \_\_\_\_\_

19. Find the value of  $\frac{8n}{3} - n$  when  $n = 6$ .

Do not write  
in this space

Ans: \_\_\_\_\_

20. Express 0.9% as a fraction.

Ans: \_\_\_\_\_

**Total marks for questions 16 to 20**

5

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)

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in this space

21. The number of visitors to an amusement park was 4200 in June. This was a 20% increase from the number of visitors in May. How many visitors were there in May?

Ans: \_\_\_\_\_

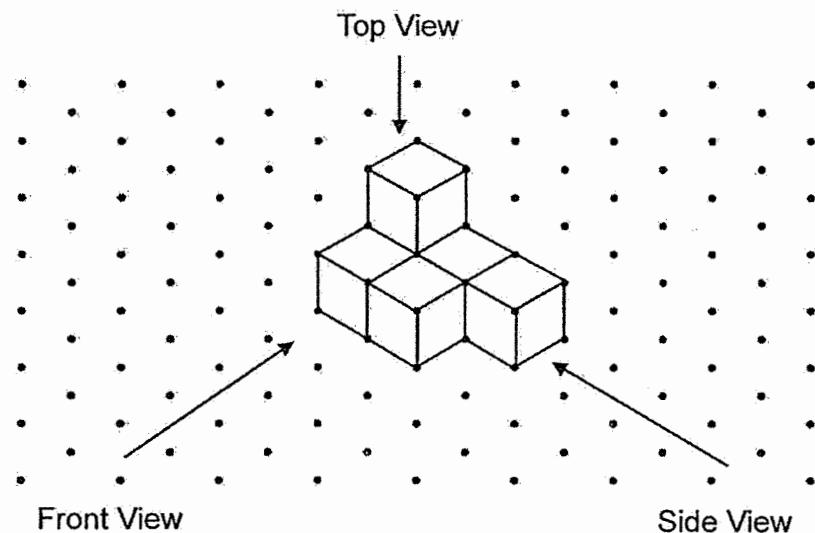
22. A bag contains balls of three different colours.  $\frac{1}{3}$  of the balls are green.

The ratio of the number of blue balls to that of the red balls is 4 : 5.  
What is the ratio of the number of green balls to that of the blue balls?

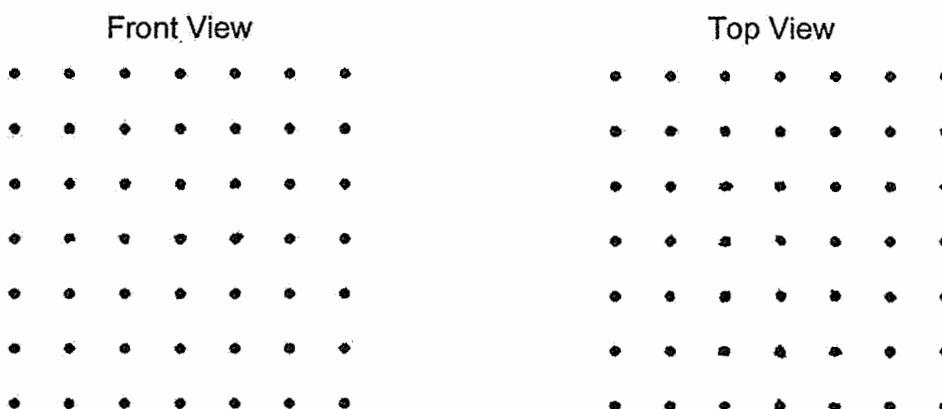
Ans: \_\_\_\_\_

23. The solid shown below is made up of 6 unit cubes.

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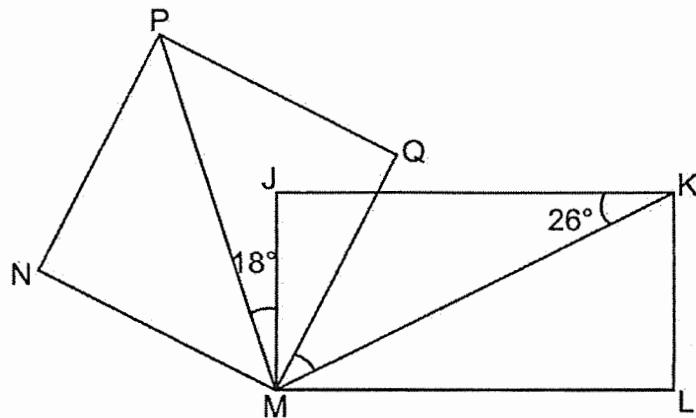
Draw the front view and top view of the solid on the grid below.



24. A machine prints 350 pieces of paper in 21 minutes. At this rate, how long does the machine take to print 150 pieces of paper?

Ans: \_\_\_\_\_ min

25. In the figure, JKLM is a rectangle and MNPQ is a square.  $\angle JKM = 26^\circ$ ,  $\angle PMJ = 18^\circ$ . Find  $\angle QMK$ .

Do not write  
in this space

Ans: \_\_\_\_\_ °

26. The table shows the rental charges for a car.

First 3 hours	\$90
Every additional hour	\$40

Mrs Chua paid \$290 for renting a car. How many hours did she rent the car for?

Ans: \_\_\_\_\_ h

27. Francis baked thrice as many muffins as tarts. After giving away 67 muffins and 13 tarts, Francis had equal number of muffins and tarts. How many tarts did Francis bake?

Do not write  
in this space

Ans: \_\_\_\_\_

28. Eric started cycling at 25 km/h from his house to the swimming complex. The swimming complex is 10 km away from his house. How long did he take to reach the swimming complex?

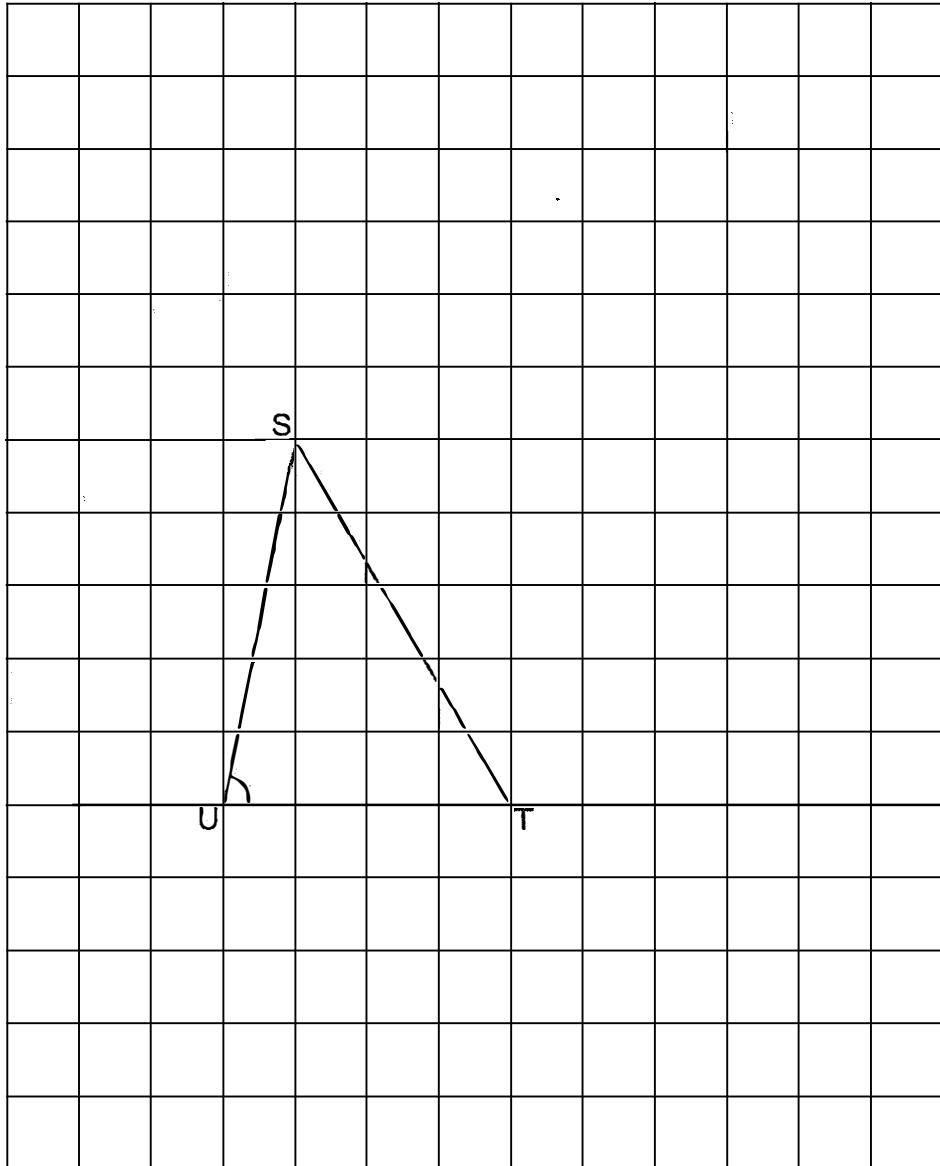
Ans: \_\_\_\_\_ min

29. In the square grid below, Figure STU is a triangle.

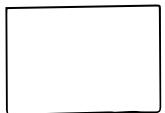
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in this space

(a) Measure and write down the value of  $\angle SUT$ .

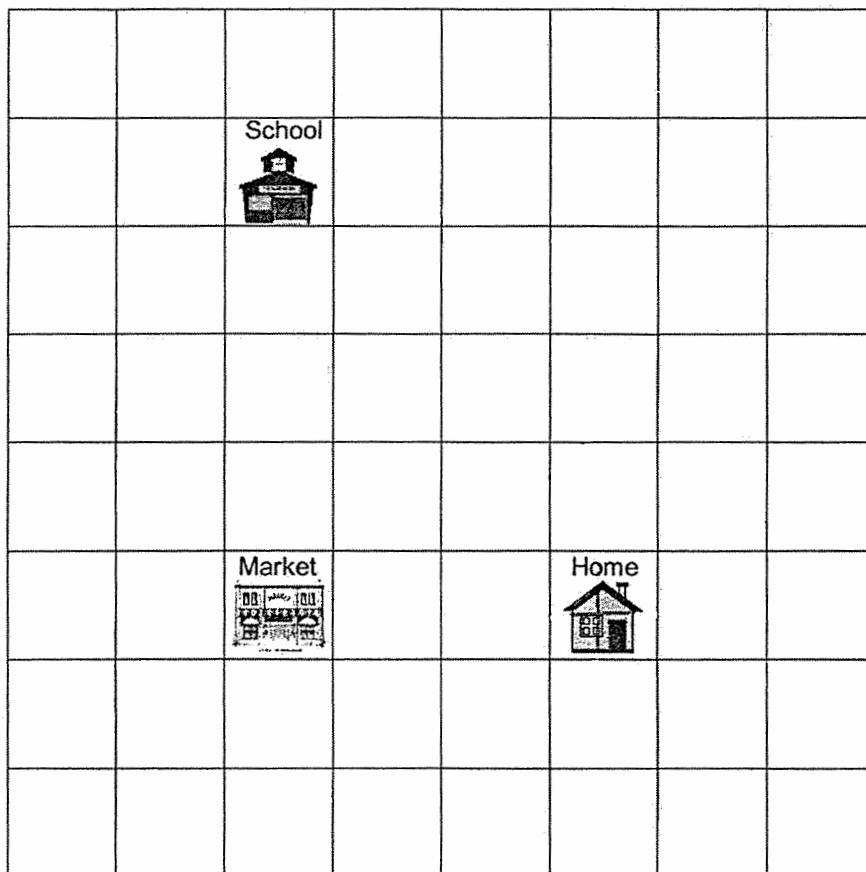
(b) Draw a parallelogram SWXT such that it is twice the area of triangle STU. Parallelogram SWXT must not overlap triangle STU.



Ans: (a) \_\_\_\_\_ °



30. Linda's home, her school and the market are located as shown in the square grid below.

Do not write  
in this space

(a) In what direction is the market from Linda's home?

(b) A new shopping centre will be built at a location south-east of the school and north-east of the market.  
Put a tick (✓) in the square where the new shopping centre will be built.

Ans: (a) \_\_\_\_\_

Total marks for questions 21 to 30

**END OF BOOKLET B**  
**END OF PAPER 1**

20



**CATHOLIC HIGH SCHOOL  
MID-YEAR EXAMINATION (2021)  
PRIMARY SIX  
MATHEMATICS  
PAPER 2**

Name : \_\_\_\_\_ ( )

Class : Primary 6 \_\_\_\_\_

Date : 10 May 2021

Total time : 1 h 30 min

17 questions

55 marks

Parent's signature : \_\_\_\_\_

<b>PAPER 1 BOOKLET A</b>	<b>20</b>
<b>PAPER 1 BOOKLET B</b>	<b>25</b>
<b>PAPER 2</b>	<b>55</b>
<b>Total Marks</b>	<b>100</b>

**INSTRUCTIONS TO CANDIDATES**

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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 15 printed pages excluding the cover 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. Michelle spent \$6 more than Nicole. They spent  $\$m$  in total.  
How much did Michelle spend? Give your answer in terms of  $m$ .

Ans: \$ \_\_\_\_\_

2. The average of three different numbers is 210. All the numbers are 3-digit whole numbers. One of the numbers is 180. What is the largest possible difference between the other two numbers?

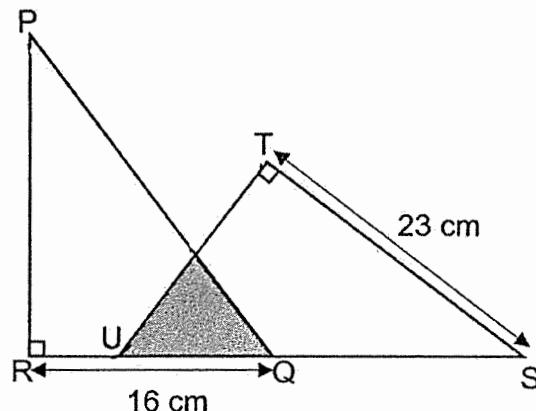
Ans: \_\_\_\_\_

3. Wayne drove a car for one hour for the first 75 km of a journey. He completed the remaining 45 km of the journey in half an hour. What was Wayne's average speed for the whole journey?

Do not write  
in this space

Ans: \_\_\_\_\_ km/h

4. In the figure below, PQR and TUS are identical right-angled triangles. The total area of the unshaded parts is 292 cm<sup>2</sup>. Find the area of the shaded part.

Ans: \_\_\_\_\_ cm<sup>2</sup>

5. Aaron and Brenda had the same number of coins at first. Each child had a mix of twenty-cent and fifty-cent coins. Aaron had 7 more twenty-cent coins than Brenda. Both children spent money at a shop and Aaron spent more money than Brenda.

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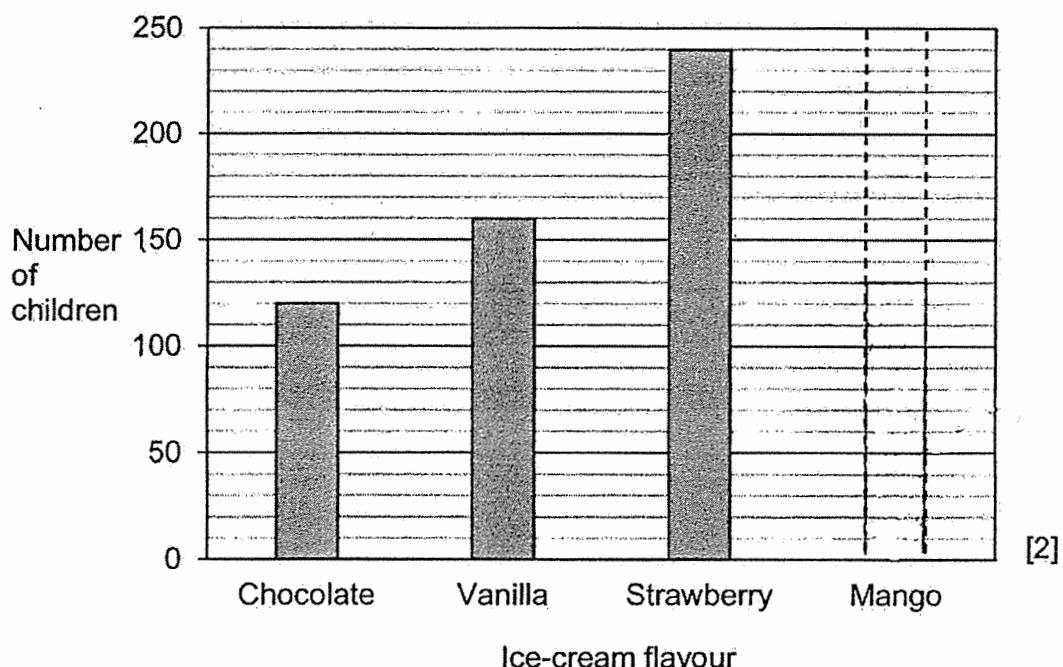
Statement (a) and (b) are either true, false or not possible to tell from the information given above. For statement (a) and (b), put a tick (✓) in the correct column.

Statement		True	False	Not possible to tell
(a)	Aaron had more money than Brenda at first.			
(b)	Brenda had more coins than Aaron at the end.			

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. A group of children was asked to choose one ice-cream flavour from Chocolate, Vanilla, Strawberry and Mango. The bar graph below represents the children's choices of ice-cream flavour. The bar that shows the number of children who chose mango ice-cream has not been drawn.



(a) What was the ratio of the number of children who chose chocolate ice-cream to the total number of children who chose vanilla and strawberry ice-cream? Give your answer in the simplest form.

(b)  $\frac{1}{5}$  of the children chose mango ice-cream. Draw the bar that shows the number of children who chose mango ice-cream in the graph above.

Ans:(a) \_\_\_\_\_ [1]

7. Richard needed to fold 356 paper cranes for a charity event. He folded 9 paper cranes each day from Monday to Friday and 17 paper cranes each day on Saturday and Sunday. Starting on a Saturday, on which day of the week did Richard finish folding 356 paper cranes?

Do not write  
in this space

Ans: \_\_\_\_\_ [3]

8. Figure 1 is made up of 4 identical rectangles. The area of Figure 1 is  $192 \text{ cm}^2$ . The rectangles are rearranged in Figure 2. Find the height of Figure 2.

Do not write  
in this space

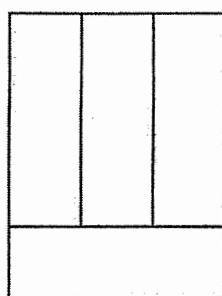


Figure 1

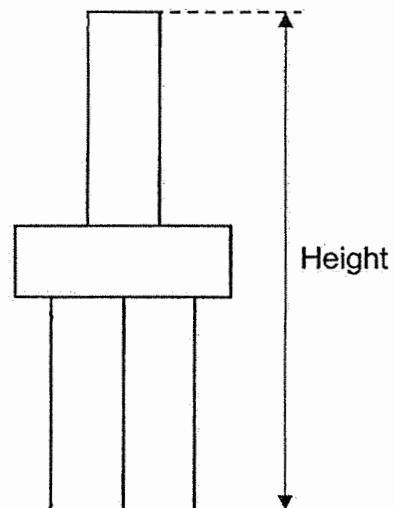


Figure 2

Ans: \_\_\_\_\_ [3]



9. There were some black beads and white beads in a box. The number of black beads was  $\frac{2}{5}$  of the number of white beads. After 12 black beads and 44 white beads were taken out of the box, the number of black beads left in the box was  $\frac{2}{3}$  of the number of white beads left in the box. How many beads were left in the box?

Do not write  
in this space

Ans: \_\_\_\_\_ [3]

10. Eugene and Frank had a total of 272 stamps. Eugene gave  $\frac{1}{3}$  of his stamps to Frank. Frank then gave  $\frac{1}{5}$  of his stamps to Eugene. In the end, each of them had the same number of stamps. How many stamps did Eugene have at first?

Do not write  
in this space

Ans: \_\_\_\_\_ [3]

11. Four teams of pupils sold bottles of sweets at a carnival. They sold a big bottle of sweets for \$7 and a small bottle of sweets for \$4. The table shows the number of bottles of sweets sold by three of the teams.

Do not write  
in this space

Team	Number of bottles of sweets sold	
	Small	Big
A	3	12
B	13	6
C	8	9

(a) Which of the three teams collected the least amount of money?  
What was the amount of money collected?

(b) Team D sold 3 times as many big bottles of sweets as small bottles of sweets. The team collected \$225. How many small bottles of sweets did Team D sell?

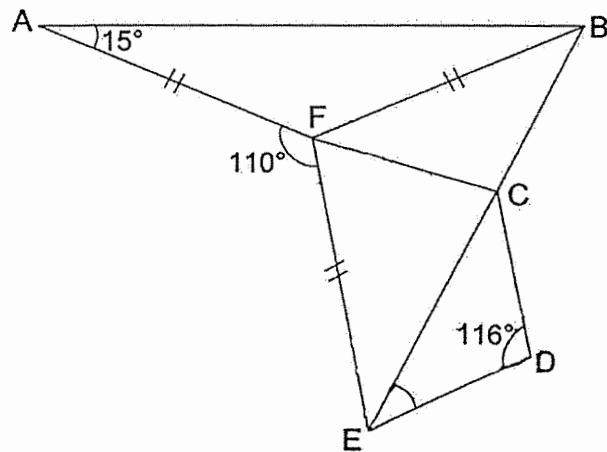
Ans: (a) Team: \_\_\_\_\_

Amount: \_\_\_\_\_ [2]

(b) \_\_\_\_\_ [2]

12. In the figure,  $\triangle FAB$  and  $\triangle BEF$  are triangles.  $FCDE$  is a trapezium.  $\angle FAB = 15^\circ$  and  $\angle CDE = 116^\circ$ .  $FA = FB = FE$ . Find  $\angle CED$ .

Do not write  
in this space

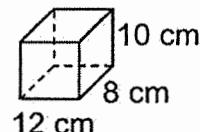
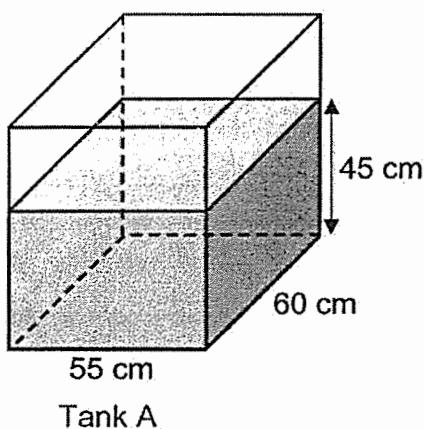


Ans: \_\_\_\_\_ [4]

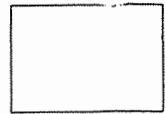
13. Tank A has a rectangular base measuring 55 cm by 60 cm. It is filled with water to a height of 45 cm. 82.5 l of water is then poured into the tank to fill it to the brim.

(a) What is the capacity of tank A in litres?

(b) All the water in the tank is then poured into some containers to the brim without spilling. Each container measures 12 cm by 8 cm by 10 cm. What is the greatest number of such containers that can be filled completely with water?

Do not write  
in this space

Ans: (a) \_\_\_\_\_ [2]  
 (b) \_\_\_\_\_ [2]



14. Jenny bought a coffee maker for \$190.50 after a 25% discount.

(a) What was the price of the coffee maker before the discount?

(b) She paid \$193.80 for an oven. The total discount for the coffee maker and the oven was \$97.70. What was the percentage discount given for the oven?

Do not write  
in this space

Ans: (a) \_\_\_\_\_ [2]

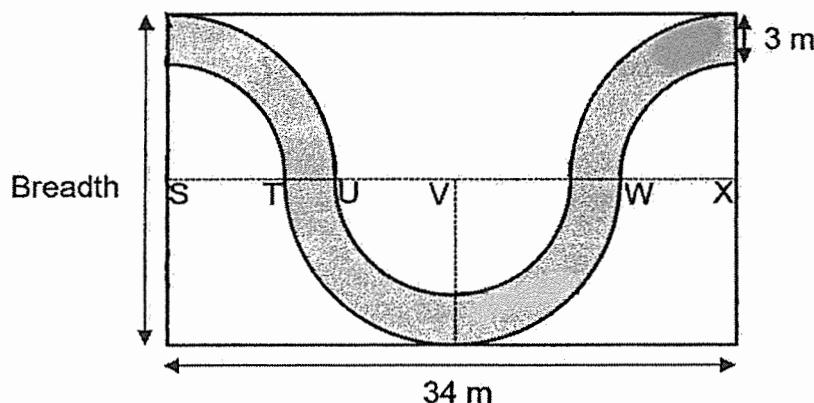
(b) \_\_\_\_\_ [2]

15. The figure shows a path of width 3 m in a rectangular garden of length 34 m. The outline of the path is made up of quarter circles with centre S and centre X, semicircles with centre V and straight lines. ST = UV = WX.

Do not write  
in this space

(a) Find the breadth of the rectangular garden.

(b) Find the area of the path. Take  $\pi = 3.14$



Ans: (a) \_\_\_\_\_ [2]

(b) \_\_\_\_\_ [2]

16. Chloe baked 1023 chocolate and vanilla buns. After selling an equal number of chocolate and vanilla buns, she had  $\frac{1}{4}$  of the chocolate buns and  $\frac{1}{5}$  of the vanilla buns left. She packed the remaining chocolate buns into 27 boxes. Some boxes contained 4 chocolate buns while some contained 7 chocolate buns.

Do not write  
in this space

- (a) How many chocolate buns were packed into boxes?
- (b) How many boxes contained 7 chocolate buns?

Ans: (a) \_\_\_\_\_ [3]

(b) \_\_\_\_\_ [2]

17. Shaded and unshaded squares are used to form the figures that follow a pattern. The first four figures are shown below.

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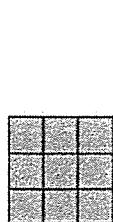


Figure 1

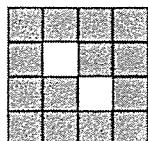


Figure 2

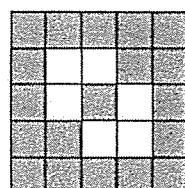


Figure 3

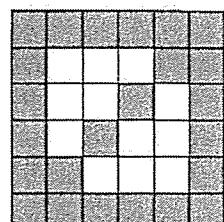


Figure 4

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

Figure Number	Number of shaded squares	Number of unshaded squares	Total number of squares
1	9	0	9
2	14	2	16
3	19	6	25
4	24	12	36
5			49

[1]

(a) Complete the table for Figure 5.

(b) Find the total number of squares in Figure 10.

(c) Which figure number has 119 shaded squares?

Ans: (b) \_\_\_\_\_ [2]

(c) \_\_\_\_\_ [2]

END OF PAPER 2



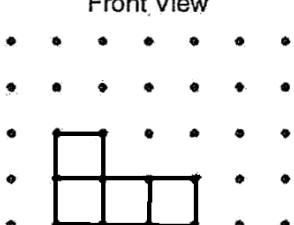
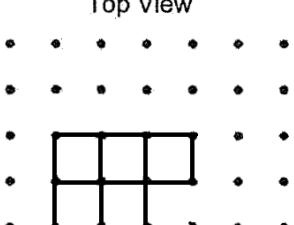
SCHOOL : CATHOLIC HIGH SCHOOL  
LEVEL : PRIMARY 6  
SUBJECT : MATH  
TERM : 2021 SA1

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PAPER 1 BOOKLET A

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
2	4	1	1	4	1	3	3	2	4

Q11	Q12	Q13	Q14	Q15
1	3	1	2	4

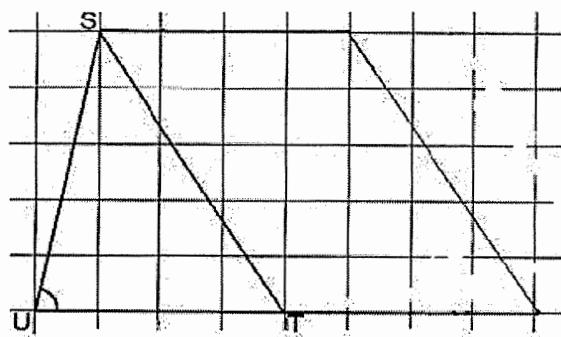
Q16	100012
Q17	1,3,9
Q18	38
Q19	10
Q20	$\frac{9}{1000}$
Q21	120% $\rightarrow$ 4200 100% $\rightarrow$ 3500
Q22	9.8
Q23	<p>Front View</p>  <p>Top View</p> 
Q24	9 min
Q25	37°
Q26	8h
Q27	27

Worked Solutions & eMCQ available at [www.sgtestpaper.com/](http://www.sgtestpaper.com/)

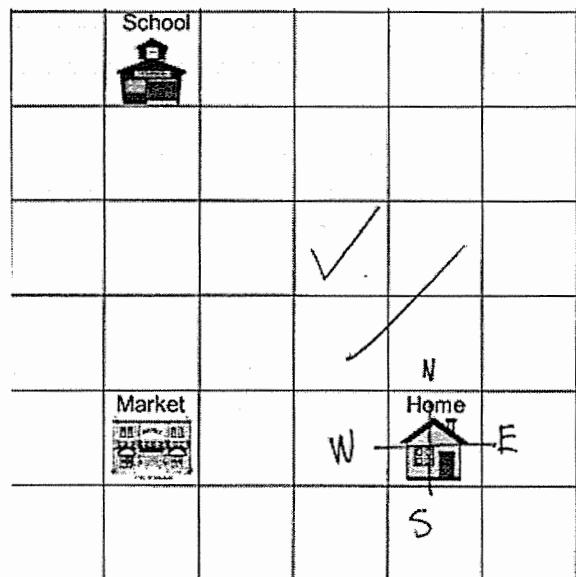
Q28)

$$\frac{2}{5}h \times 60min = 24min$$

Q29)



Q30)



(a)  
(b) West

**PAPER 2**

Q1)

$$(m - 6) \div 2 = m + 6 \div 2$$

	$\frac{m-6}{2} + 6 = \left( \frac{m-6}{2} + 6 \right)$
Q2)	$210 \times 3 = 630$ $630 - 180 = 450$ $450 - 100 = 350$ $350 - 100 = 250$
Q3)	$td = 120 \text{ km}$ $as = \frac{80 \text{ km}}{h}$ $tt = 1h + \frac{1}{2}h = 1\frac{1}{2}h$
Q4)	$38 \text{ cm}^2$
Q5)	<p>(a) True          (b) Impossible to tell</p>
Q6)	<p>(a) mango = 130 number of children          (b) 3:10</p>
Q7)	$sat - sun$ $17 \times 2 = 34$ $365 - 34 = 322$ $mon - sun$ $9 \times 5 + 17 \times 2 = 79$ $\frac{322}{79} - 4R6$
	Monday
Q8)	$192 \div 4 = 48$ $\text{length is } 3 \times B$ $4 \times 12 = 48$ $12 + 4 + 12 = 28 \text{ cm}$
Q9)	$2u = 44 - (6 \times 5) = 14$ $1u = 7$ $5u = 35$
Q10)	$272 \div 2 = 136$ $136 \div 4 = 34$ $34 \times 5 = 170$ $272 - 170 = 102$ $102 \div 2 = 51$ $51 \times 3 = 153$
Q11)	<p>(a) team A = 96, team B = 94, team C = 95          (b) no. of groups = <math>225 \div 25 = 9</math></p>
Q12)	$\text{angle } AFB = 180^\circ - 15^\circ - 15^\circ = 150^\circ$ $\text{angle } BFE = 360^\circ - 110^\circ - 150^\circ = 100^\circ$ $\text{angle } FEC = \frac{180^\circ - 100^\circ}{2} = 40^\circ$ $\text{angle } CED = 180^\circ - 116^\circ - 40^\circ = 24^\circ$
Q13)	<p>(a) vol of water in A = <math>55 \times 60 \times 45 = 148500</math>          cap of A = <math>148500 + 82500 = 231000 \text{ cm}^3 = 231l</math>          (b) <math>12 \times 8 \times 10 = 960</math></p>

$$(c) 231000 \div 960 = 240.625 \approx 240$$

Q14) (a)  $75\%m = \$190.50$

$$1\%m = \$2.54$$

$$100\% = \$254$$

(b)  $25\%m = \$63.50$  (*discount coffee marker*)

$$\$97.70 - \$63.50 = \$34.20$$
 (*discount oven*)

$$\$34.20 + \$193.80 = \$228$$

$$\frac{34.2}{228} \times 100\% = 15\%$$

Q15) (a)  $34 - 3 - 3 = 28$

$$28 \div 4 = 7$$

$$7 + 7 + 3 + 3 = 20$$

(b)  $\frac{1}{4} \times 3.14 \times 7 \times 7 = 38.465$

$$\frac{1}{4} \times 3.14 \times 10 \times 10 = 78.5$$

$$78.5 - 38.465 = 40.035$$

$$40.035 \times 4 = 160.14m^2$$

Q16) (a)  $31u = 1023$

$$1u = 33$$

$$4u = 132$$

(b) *assume all contains 4 CB*

$$4 \times 27 = 108$$

$$\text{difference} = 132 - 108 = 24$$

$$\text{difference} = 7 - 4 = 3$$

$$24 \times 3 = 8$$

Q17) (a) 29 and 20

(b)  $12 \times 12 = 144$

(c)  $119 - 9 = 110$

$$110 \div 5 = 22$$

$$22 + 1 = 23$$