

METHODIST GIRLS' SCHOOL (PRIMARY)

Founded in 1887



PRELIMINARY EXAMINATION 2015 PRIMARY 6 MATHEMATICS

PAPER 1 (BOOKLET A)

Total Time for Booklets A and B: 50 minutes

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.

Name: _____

Class: Primary 6

Date: 25 August 2015

This booklet consists of 7 printed pages including this page.

Questions 1 to 10 carry 1 mark each. Questions 11 to 15 carry 2 marks each. For each question, four options are given. One of them is the correct answer. Make your choice (1, 2, 3 or 4). Shade the correct oval (1, 2, 3 or 4) on the Optical Answer Sheet. (20 marks)

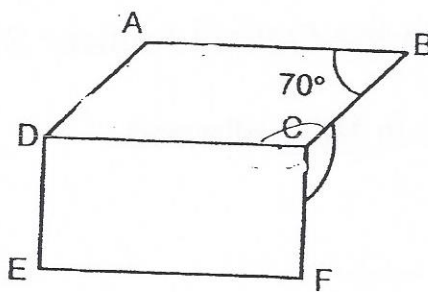
1 Round off 271.605 to the nearest hundredth.

- (1) 270.00
- (2) 271.61
- (3) 271.60
- (4) 300.60

2 Which one of the following is the most likely mass of an apple?

- (1) 13 g
- (2) 130 g
- (3) 1.3 kg
- (4) 13 kg

3 In the diagram below, ABCD is a parallelogram and CDEF is a rectangle. Find $\angle BCF$.



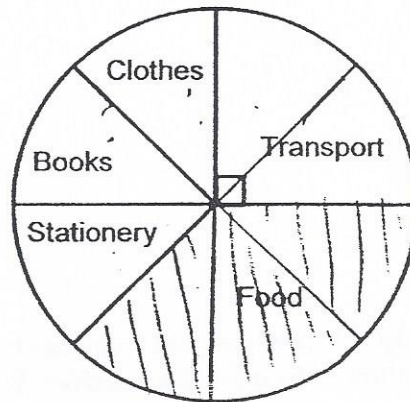
- (1) 110°
- (2) 140°
- (3) 160°
- (4) 200°

- 4 The table below shows the number of cars sold by Mr Lim from January to April.

Month	Jan	Feb	Mar	Apr
Number of cars	10	8	6	0

What was the average number of cars sold per month?

- (1) 6
(2) 8
(3) 12
(4) 24
- 5 The pie chart below shows how Ben spent his allowance in a typical month. He spent the same amount of money on stationery, books and clothes. The amount spent on stationery and food is 50% of his allowance. What fraction of his allowance did he spend on food?



- (1) $\frac{1}{3}$
(2) $\frac{1}{8}$
(3) $\frac{3}{8}$
(4) $\frac{7}{8}$

6 What is the value of $10b - \frac{4b+3}{3}$ when $b = 3$?

- (1) 17
- (2) 18
- (3) 19
- (4) 25

7 The grid below shows the position of A, B, C, D and E. Which letter is South-East of A?

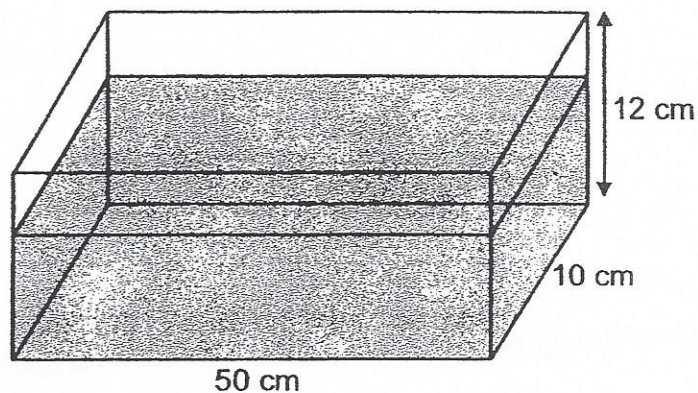
	E				
				D	
B				C	

- (1) B
- (2) C
- (3) D
- (4) E

8 Five pears costs \$ y . 4 oranges cost as much as 5 pears. John bought 10 pears and 12 oranges. He gave the cashier \$50. How much change did he receive?

- (1) $\$(50 - y)$
- (2) $\$(50 - 5y)$
- (3) $\$(50 - 9y)$
- (4) $\$(50 - 22y)$

- 9 The figure below shows a glass tank which is $\frac{2}{3}$ -filled with water. How much more water is needed to fill the tank completely?

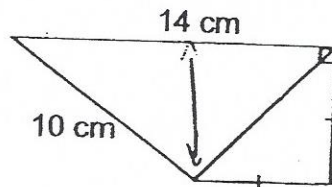


- (1) 2000 cm^3
(2) 3000 cm^3
(3) 4000 cm^3
(4) 6000 cm^3
- 10 Which one of the following fractions is less than $\frac{1}{3}$?
- (1) $\frac{3}{8}$
(2) $\frac{4}{11}$
(3) $\frac{5}{14}$
(4) $\frac{7}{22}$

- 11 Mrs Tan wants to pack 45 chocolate bars and 60 sweets into goodie bags for her daughter's birthday party. She needs to pack the items equally into as many bags as possible without any leftover. How many sweets will there be in each bag?

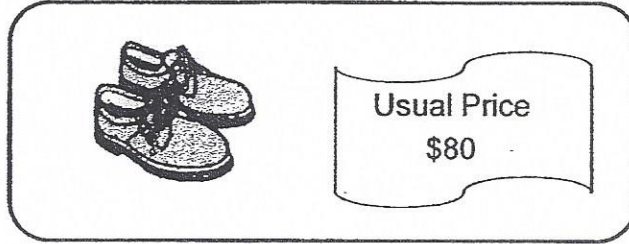
- (1) 12
- (2) 9
- (3) 3
- (4) 4

- 12 The perimeter of the figure is 40 cm. Find the area of the figure.



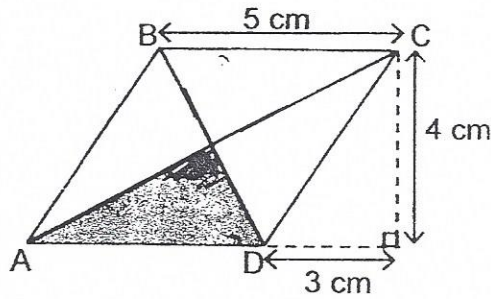
- (1) 80 cm^2
 - (2) 88 cm^2
 - (3) 96 cm^2
 - (4) 112 cm^2
- 13 In a basket, $\frac{3}{5}$ of the fruits are apples and the rest are oranges. $\frac{1}{4}$ of the apples are green and the rest are red. There are 45 red apples. How many fruits are there in the basket?
- (1) 60
 - (2) 75
 - (3) 100
 - (4) 180

- 14 Mr Tan bought a pair of shoes at a 20% discount during the Great Singapore Sale. He had a discount card which entitled him to an additional 10% discount off the sale price. How much did Mr Tan pay for the shoes in the end?



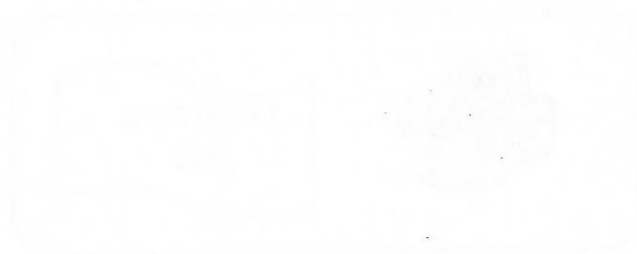
- (1) \$56.00
- (2) \$57.60
- (3) \$64.00
- (4) \$72.00

- 15 In the diagram below, ABCD is a rhombus. E is the mid-point of BD and AC. Find the area of the shaded part.



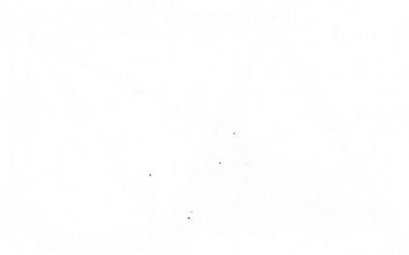
- (1) 5 cm^2
- (2) 6 cm^2
- (3) 10.5 cm^2
- (4) 16 cm^2

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METHODIST GIRLS' SCHOOL (PRIMARY)

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PRELIMINARY EXAMINATION 2015 PRIMARY 6 MATHEMATICS

PAPER 1 (BOOKLET B)

Total Time for Booklets A and B: 50 minutes

INSTRUCTIONS TO CANDIDATES

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

Follow all instructions carefully.

Answer all questions.

Write your answers in this booklet.

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

Name: _____

Class: Primary 6.

Date: 25 August 2015

Paper 1 Booklet A	/ 20
Paper 1 Booklet B	/ 20
Paper 2	/ 60
TOTAL	/ 100

This booklet consists of 8 printed pages including this page.

Questions 16 to 25 carry 1 mark each. Write your answers in the spaces provided.
For questions which require units, give your answers in the units stated.

(10 marks)

Do not write
in this space

16 Find the value of $100.4 - 9.85$

Ans: _____

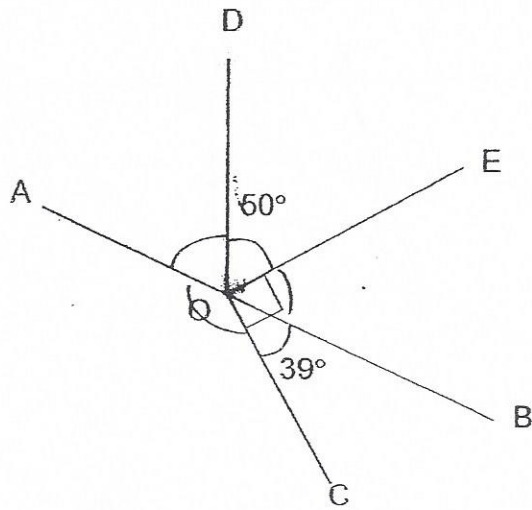
17 Find the value of $2 + \frac{1}{3} - \frac{3}{4}$. Give your answer in the simplest form.

18 Express $\frac{13}{125}$ as a decimal.

Ans: _____

19

In the figure below (not drawn to scale), AOB is a straight line and $\angle EOC$ is a right angle, $\angle DOE = 50^\circ$ and $\angle BOC = 39^\circ$. Find $\angle AOD$.

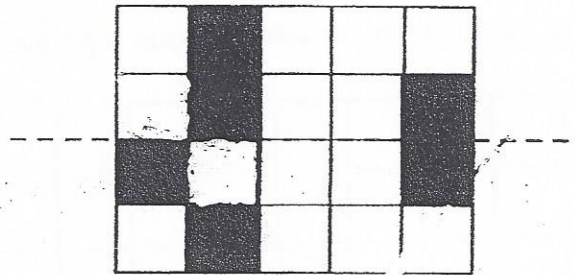


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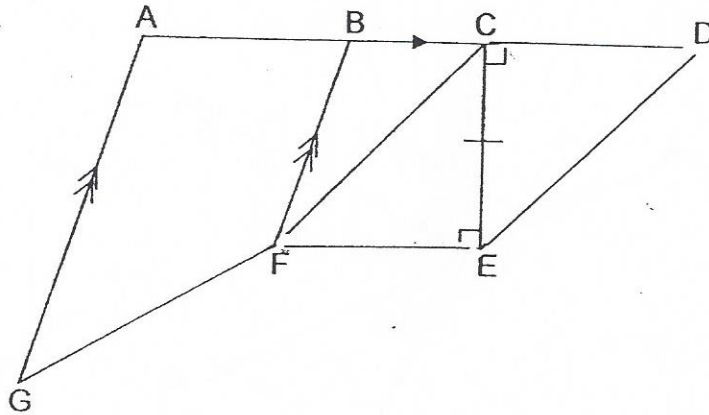
Ans: _____ °

20

Complete the drawing below by shading 2 more squares so that the dotted line is a line of symmetry.



- 21 The figure below is not drawn to scale. $AD \parallel FE$ and $AG \parallel BF$.
 $CD = CE = FE$. Name a parallelogram in the figure.

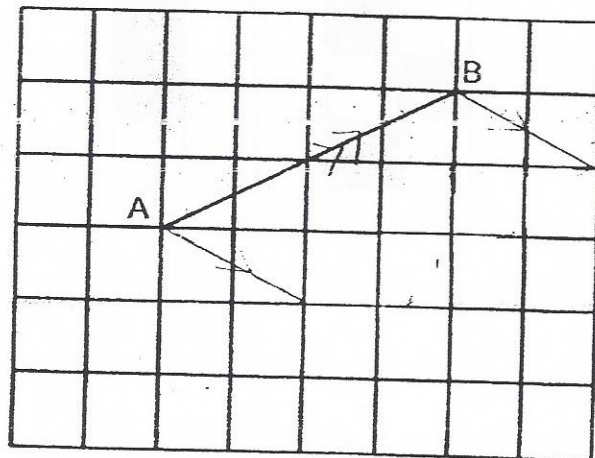


Ans: _____

Do not write
in this space

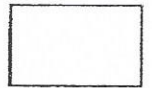
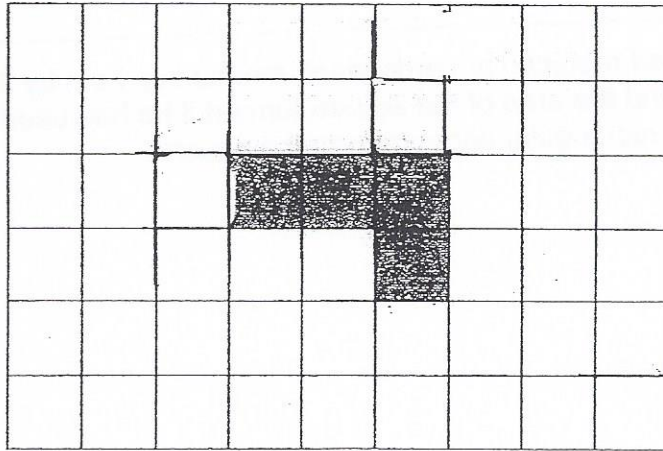
- 22 Rahmat cycled for 10 minutes at a constant speed of 15 km/h from his home to the library. How far was the library from his home?

- 23 In the grid below, complete the drawing to form a parallelogram, ABCD.

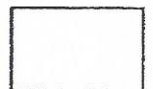
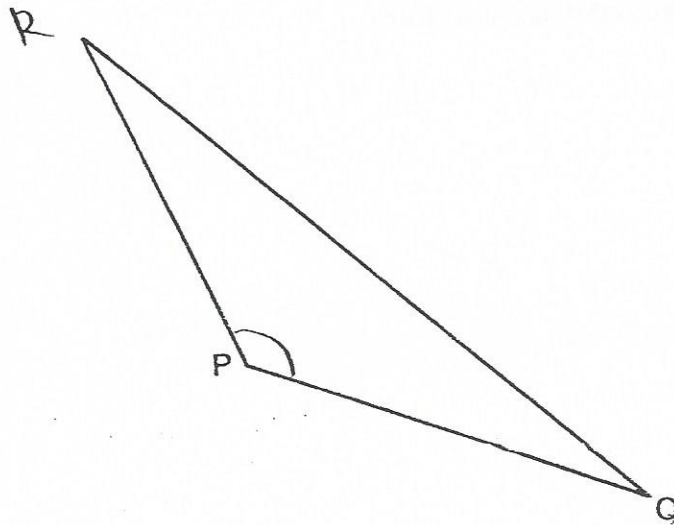


- 24 In the grid below, draw in the number of square(s) needed, such that the shaded figure below shows the net of a cube.

Do not write in this space



- 25 Draw triangle PQR such that $\angle RPQ = 134^\circ$ and $RP = 5$ cm. The line PQ has been drawn for you. Label the point R and mark the angle on your diagram.



Questions 26 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.

Do not write in this space

(10 marks)

- 26 Ahmad used rectangular cards, each measuring 4 cm by 6 cm, to form a square. Find the area of the square formed if he had used the least number of rectangular cards to form the square.

Ans: _____ cm²

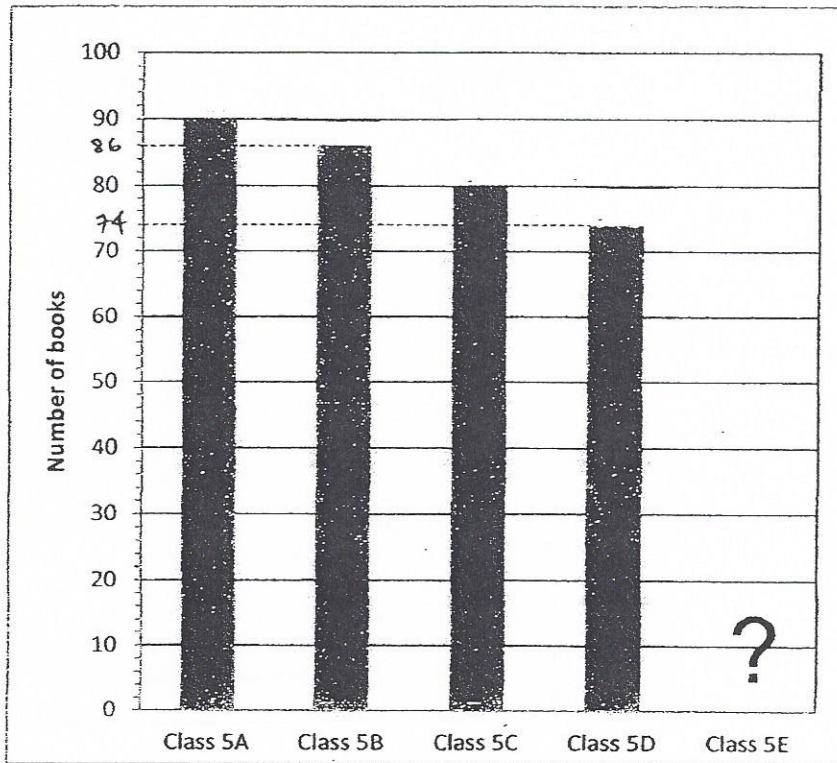
- 27 Amelia has a box of red, blue and yellow beads. The ratio of the number of red beads to the number of blue beads is 2 : 3. The ratio of the number of yellow beads to the total number of red and blue beads is 2 : 7. What fraction of the beads in the box are blue?
Give your answer in the simplest form.

Ans: _____

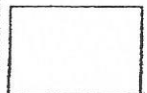
28

The graph shows the the number of books borrowed from the library by 5 classes in a week. The average number of books borrowed by the 5 classes was 80. How many books did Class 5E borrow from the library?

Do not write in this space

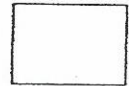


Ans: _____

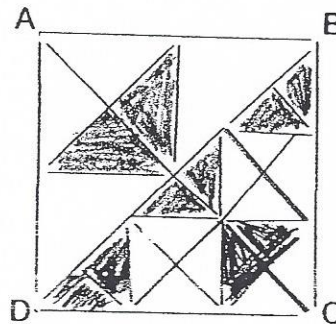


- 29 Mr Sim bought an equal number of goldfish and angelfish. He spent a total of \$72. The cost of an angelfish was \$3. Each goldfish cost \$2 more than an angelfish. How many goldfish and angelfish did Mr Sim buy altogether?

Do not write
in this space



- 30 ABCD is a square. What is the ratio of the total shaded area to the area of square ABCD?



Ans: _____



End of Paper

METHODIST GIRLS' SCHOOL (PRIMARY)

Founded in 1887



PRELIMINARY EXAMINATION 2015 PRIMARY 6 MATHEMATICS

PAPER 2

Duration: 1h 40 min

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.
Follow all instructions carefully.

Answer all questions.

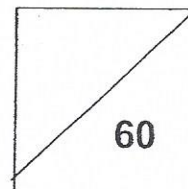
Write your answers in this booklet.

The use of an approved calculator is expected, where appropriate.

Name: _____

Class: Primary 6.

Date: 25 August 2015

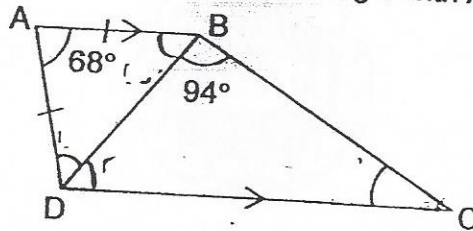


This booklet consists of 15 printed pages including this page.

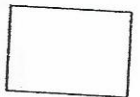
Questions 1 to 5 carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

Do not write in this space

- 1 The figure below shows a trapezium ABCD with $AB \parallel DC$, $\angle DAB = 68^\circ$ and $\angle DBC = 94^\circ$. ABD is an isosceles triangle with $AB = AD$. Find $\angle BCD$.

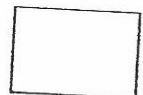


Ans: _____



- 2 Jane had $6m$ mangoes. She ate 2 mangoes and gave $3m$ mangoes to her sister. She then used half of the remaining mangoes to bake a mango cake. How many mangoes had Jane left? Give your answer in terms of m in the simplest form.

Ans: _____



- 3 The bus ride from Julie's office to her home is 43 mins. She boarded the bus at 5.23 p.m. What time would the bus arrive at her home? Give your answer in the 24-hour clock.

Do not write
in this space

Ans: _____

- 4 Jeremy paid \$175 for a camera after a discount of 30%. What was the price of the camera before the discount?

Ans: \$ _____

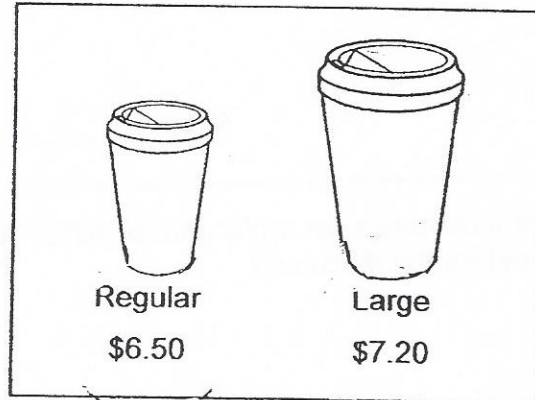
- 5 Sally spent $\frac{1}{3}$ of her money on a storybook. She spent $\frac{1}{4}$ of the remaining money on a pen. She had \$12.90 left. How much money did she have at first?

Ans: \$ _____

For Questions 6 to 18, 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. (50 marks)

Do not write in this space

- 6 A cafe sold a total of 290 large and regular cups of coffee at the prices shown below. The total amount collected was \$1979.50.
How many large cups did the cafe sell?



Ans: _____ [3]

- 7 The average amount donated by each person in a group was \$135. George and Bala joined the group and each of them donated \$170. As a result, the average amount donated by each person in the group increased to \$140. How many people were there in the group at first?

Do not write
in this space

Ans: _____ [3]

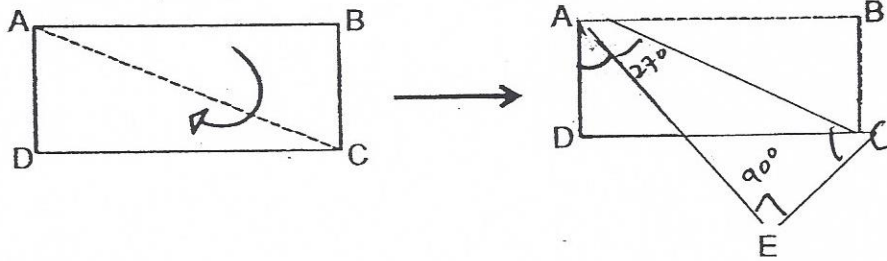
- 8 Alex and Jack took part in a cycling race. Jack cycled at a speed of 24 km/h. Both of them did not change their speed throughout the race. When Alex reached the halfway point, Jack was 3 km ahead of him. Alex reached the end point at 12.10 p.m. At what time did Jack reach the end point?

_____ [3]

9

A rectangular piece of paper is folded along the dotted line AC as shown below.

Do not write in this space

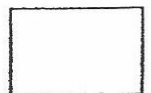


(a) Find $\angle DAE$.

(b) Find $\angle ACE$.

Ans: (a) _____ [1]

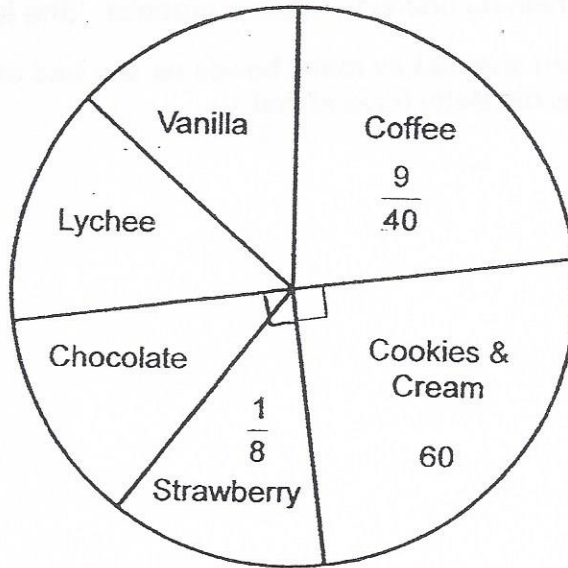
(b) _____ [2]



10

The pie chart shows the favourite ice-cream flavours of a group of children. Half of the number of children like Cookies & Cream, Strawberry and Chocolate ice-cream.

Do not write
in this space



- (a) What fraction of the children like Lychee and Vanilla ice-cream?
(b) How many children like Chocolate and Coffee ice-cream?

Ans: (a) _____ [1]

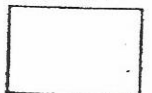
(b) _____ [2]



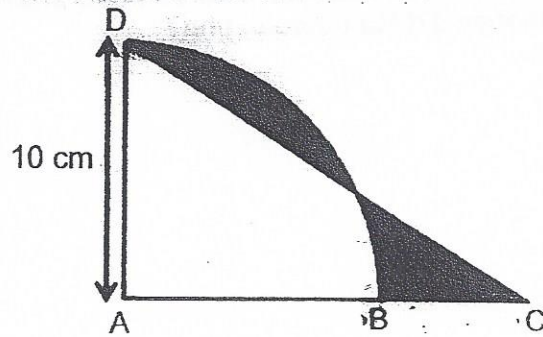
- 11 Betty had some beads. She used $\frac{2}{9}$ of the beads to make a necklace and $\frac{1}{5}$ of the remaining beads to make a bracelet. She bought another 85 beads and then she had as many beads as she had at first. How many beads did Betty have at first?

Do not write
in this space

Ans: _____ [3]



- 12 The diagram below shows a quadrant and a right-angle triangle. The ratio of the length of AB to the length of AC is 2 : 3. What is the difference in area between the 2 shaded parts? Take $\pi = 3.14$.



Do not write
in this space

Ans: _____ [4]



- 13 Mandy and Rani went shopping with a total sum of \$219. Mandy spent twice as much as Rani. Mandy had half as much money left as Rani. The amount of money that Rani had left was \$8 more than what she had spent. How much money did Rani have at first?

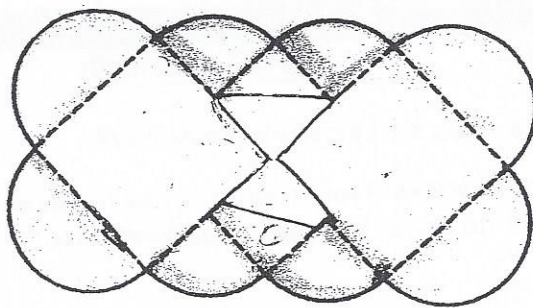
Do not write
in this space

Ans : _____

- 14 The figure below shows the design of a floor rug. The edges of the rug is made up of 4 semicircles and 4 quarter-circles, each of radius 21 cm.

Take $\pi = \frac{22}{7}$.

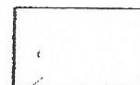
- (a) Find the perimeter of the rug.
(b) Find the area of the rug.



Do not write in this space

Ans: (a) _____ (3)

(b) _____ (2)



- 15 Mr Lim works 5 days in a week from 10 a.m. to 7.30 p.m. He drives to work and arrives at his office 25 minutes before he starts work to have his breakfast at the staff cafeteria. The table below shows the parking rates at his office building.

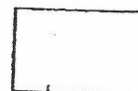
6 a.m. to 6 p.m.	\$1.55 per half hour or part thereof
6.01 p.m. to 12 midnight	\$4.30 per entry
Season parking pass	\$357 per month

- (a) How many hours does Mr Lim work every day?
- (b) Mr Lim works for 4 weeks every month. How much would Mr Lim save per month if he buys the season parking pass?

Do not write
in this space

Ans: (a) _____ [1]

(b) _____ [3]



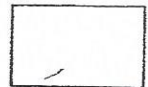
16 During the Christmas sale, Mrs Chen bought an oven and a washing machine at a discount. She spent a total of \$1 086 for these two items. She spent \$414 less on the oven than on the washing machine.

- (a) How much did she spend on the washing machine?
- (b) The total discount given for the two items was \$644. She was given a 40% discount for the washing machine. What was the percentage discount given for the oven?

Do not write
in this space

Ans: (a) _____ [2]

(b) _____ [3]



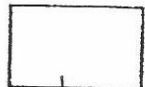
17 Mel and Lillian were given the same mass of pizza dough. Mel used the dough to make 9 large pizzas and had 300 g of dough left. Lillian used the dough to make 25 small pizzas and had 200 g of dough left. The mass of dough used for 2 large size pizzas was the same as that for 5 small pizzas.

- (a) How many large pizzas can be made with the same mass of dough used to make 25 small pizzas?
- (b) What is the maximum number of small pizzas that can be made with the remaining dough from both girls?

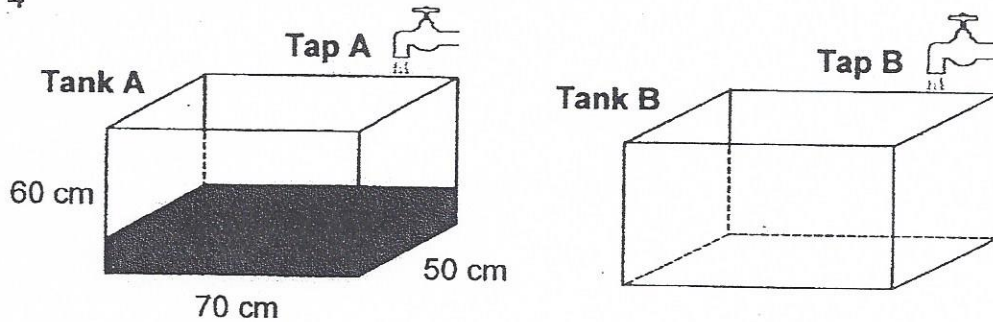
Do not write
in this space

Ans: (a) _____ [1]

(b) _____ [4]



- 18 Two identical rectangular tanks are shown below. At first, Tank A was $\frac{1}{4}$ -filled with water and Tank B was empty.

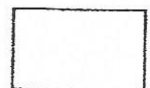


- (a) How many litres of water were there in Tank A at first?
- (b) Both taps were turned on at the same time. The water from Tap A flowed at a rate of 2 l/min. The water from Tap B flowed at a rate of 3.5 l/min into Tank B. How long did it take for the water level in both tanks to be the same?

Do not write
in this space

Ans: (a) _____ [2]

(b) _____ [3]



EXAM PAPER 2015
 LEVEL : PRIMARY 6
 SCHOOL : METHODIST GIRLS' SCHOOL PRIMARY
 SUBJECT : MATHS
 TERM : PRELIMINARY EXAMINATION

PAPER ONE

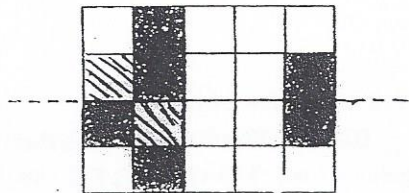
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
2	2	3	1	3	4	2	2	1	4
Q11	Q12	Q13	Q14	Q15					
4	2	3	2	1					

Q16. $90.55 \rightarrow 100.4 - 9.85 = 90.55$

Q17. $1\frac{7}{12} \rightarrow 2 + \frac{1}{3} \cdot \frac{3}{4} = 2 + \frac{4}{12} - \frac{9}{12} = 2\frac{4}{12} - \frac{9}{12} = \frac{28}{12} - \frac{9}{12} = \frac{19}{12} = 1\frac{7}{12}$

Q18. 0.104. Q19 $79^\circ \rightarrow \angle EOB = 90^\circ - 39^\circ = 51^\circ, \angle AOC = 180^\circ - 39^\circ = 141^\circ, \angle AOD = 360^\circ - (180^\circ + 50^\circ + 51^\circ) = 360^\circ - 281^\circ = 79^\circ$

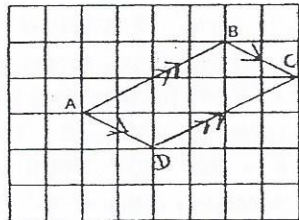
Q20. SEE PICTURE



Q21. CDEF

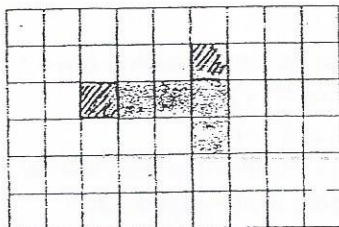
Q22. $2500m \rightarrow \text{TIME} \rightarrow 10 \text{ minutes} = \frac{1}{6}h, \text{SPEED} \rightarrow \frac{15km}{h}, \text{Distance} \rightarrow \left(\frac{1}{6} \times 15\right) = \frac{5}{2}km = 2.5 km$

Q23. SEE PICTURE

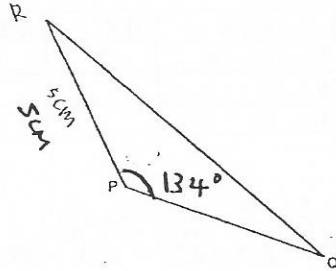


Q24. SEE PICTURE

24 In the grid below, draw in the number of square(s) needed, such that shaded figure below shows the net of a cube



Q25. SEE PICTURE



- Q26. $144\text{cm}^2 \rightarrow \text{Area} \rightarrow (12 \times 12)\text{cm}^2 = 144\text{cm}^2$
 Q27. $\frac{7}{15}$, Blue $\rightarrow 21, \frac{21}{45} = \frac{7}{15}$ Q28. $90 + 86 + 80 + 74 = 330$, class 5E $\rightarrow 400 - 330 = 70$
 Q29. 18 goldfish and angelfish. 1 set $\rightarrow \$3 + \$5 = \$8$, $\$72 \div \$8 = 9$, $9 + 9 = 18$
 Q30. $25:72 \rightarrow \frac{4}{16} + \frac{8}{18} = \frac{1}{4} + \frac{1}{9} = \frac{9}{36} + \frac{16}{36} = \frac{25}{36}$

PAPER TWO

- Q1. $30^\circ \rightarrow \angle ABD = (180^\circ - 68^\circ) \div 2 = 56^\circ$, $\angle ABD = \angle BDC$, $\angle BCD = 180^\circ - (94^\circ + 56^\circ) = 30^\circ$
 Q2. $(\frac{3m-2}{2})$ mangoes $\rightarrow 3m - 2 \div 2 = \frac{3m-2}{2}$ Q3. 1806
 Q4. $\$250 \rightarrow 100\% - 30\% = 70\%$, $70\% \rightarrow \$175$, $10\% \rightarrow \$17.5$, $10\% \rightarrow \$17.5 \div 7 = \25 , $\$25 \times 10 = 250$ Q5. $\$25.80 \rightarrow \text{Money} \rightarrow$
 $\frac{1}{3}$ storybook, $\frac{2}{3}$ remainder $\frac{1}{4}$ pen, $\frac{3}{4}$ left, left $\frac{1}{2} \rightarrow \12.90 , at first 1 $\rightarrow \$12.90 \times 2 = \25.80
 Q6. 135 large cups \rightarrow regular - $155 \times \$6.50 = \1007.50 , large $135 \times \$7.20 = \972 , $\$1007.50 + \$972 = \$1997.56$
 Q7. 12 people $\rightarrow 170 \times 2 = 340$ (Total G + B) $140 \times 2 = 280$ (New average) $340 - 280 = 60$, $140 - 135 = 5$
 (difference), $60 \div 5 = 12$. Q8. 11.55am \rightarrow Jack's speed $\rightarrow 6 \div 24 = \frac{1}{4}$, $\frac{1}{4} h = 15 \text{min}$
 Q9a. $\angle DAE = 90^\circ - 54^\circ = 36^\circ$ Q9b. $63^\circ \rightarrow \angle ACE = 180^\circ - (27^\circ + 90^\circ) = 63^\circ$
 Q10a. $\frac{11}{40} \rightarrow \frac{66}{240} = \frac{11}{40}$ Q10b. 84 children \rightarrow Chocolate + coffee $\rightarrow 30 + 54 = 84$
 Q11a. 225 beads $\rightarrow \frac{4}{5} \times \frac{7}{9} = \frac{28}{45}$, $\frac{28}{45}$, $85 \rightarrow \text{total. } 1 - \frac{28}{45} = \frac{17}{45}$, $\frac{17}{45} \rightarrow 85, \frac{45}{45} \rightarrow 5 \times 45 = 225$
 Q12. 3.5cm^2 Area, D $\rightarrow (\frac{\pi r^2}{4})\text{cm}^2 = (\pi \times 10 \times 10 \times \frac{1}{4})\text{cm}^2 = 25\pi\text{cm}^2$
 Area, $\Delta \rightarrow (\frac{1}{2} \times 10 \times 15)\text{cm}^2 = 75\text{cm}^2 = (25 \times 3.14)\text{cm}^2 = 78.5\text{cm}^2$
 Q13. $\$100 \rightarrow 1U + 2p + 2U + 1P \rightarrow \219 , $3U + 3P \rightarrow \$219$, $1.5P + 12 + 3P \rightarrow \219 , $4.5P \rightarrow \$219 - 12 = \207 ,
 $1P \rightarrow \$207 \div 4.5 = \46 , $\$54 + \$46 = \$100$
 Q14a. 396cm Total perimeter $\rightarrow 132 \times 3 = 396$. Q14b. $8568\text{cm}^2 \rightarrow$ total area $\rightarrow 2772 = 1386 + 882 + 3528 = 8568$
 Q15a. $9\frac{1}{2}h$ Q15b. $\$256 \rightarrow 613 - 357 = 256$
 Q16a. $\$750 \rightarrow W \rightarrow \$336 + \$414 = \750 Q16b. $30\% \rightarrow 1086 + 644 = 1730$, $100 - 40 = 60$, $750 \div 60 = 12.5$, $12.5 \times 100 = 1250$, $1730 - 1250 = 480$, $480 - 336 = 144$, $\frac{144}{480} \times 100 = 30$.
 Q17a. 10 large pizzas $\rightarrow L : S, 2:5, 10:25, 2 \times 5 = 10$.
 Q17b. 2litre $\rightarrow 100 \times 2 = 200$, $55 \rightarrow 200f, 15 \rightarrow (200 \div 5)g = 40G, 500 \div 40 \approx 12$
 Q18a. $\frac{1}{4} \times 60 \times 70 \times 50 \text{ cm}$, 52.5litre Q18b. $52500 \div 1500 = 35$.

THE END