



Anglo-Chinese School (Junior)
Anglo-Chinese School (Primary)

**2018 PRELIMINARY EXAMINATION
MATHEMATICS
PAPER 1 (BOOKLET A)
PRIMARY SIX**

Name: _____ () Class: Primary 6 ____

Date: 24 August 2018

Duration of Booklets A & B: 1 hour

INSTRUCTIONS TO CANDIDATES

The question paper consists of eight pages, including the cover page.
Do not turn the page until you are told to do so.
Follow all instructions carefully.
Shade your answers on the Official Answer Sheet (OAS) provided.
You are allowed to use a non-programmable calculator.

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 (1, 2, 3 or 4) on the Optical Answer Sheet (OAS).
(20 marks)

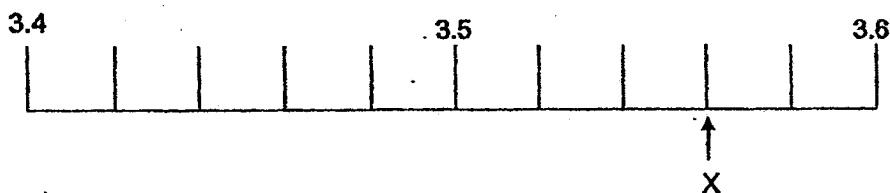
1. Find the value of $14 \times 5 - 4 \times 4 + 20 - 16$.

- 1) 18
- 2) 50
- 3) 58
- 4) 60

2. Express 2080 cm in m.

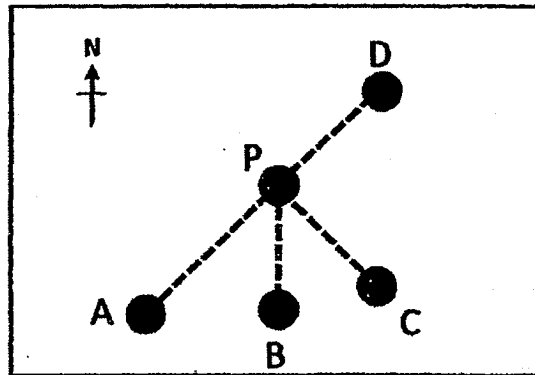
- 1) 2.8 m
- 2) 2.08 m
- 3) 20.8 m
- 4) 20.08 m

3. Part of a scale is shown below. What is the value of the reading at X?



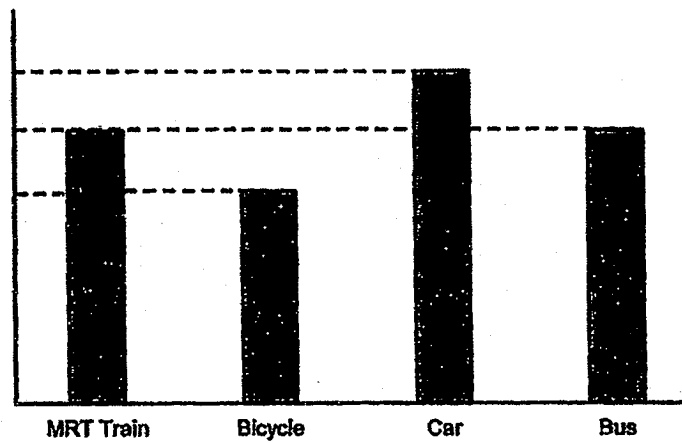
- 1) 3.48
- 2) 3.53
- 3) 3.56
- 4) 3.62

4. The figure below shows the map of 5 places, labelled A, B, C, D and P. Which place is south-west of P?

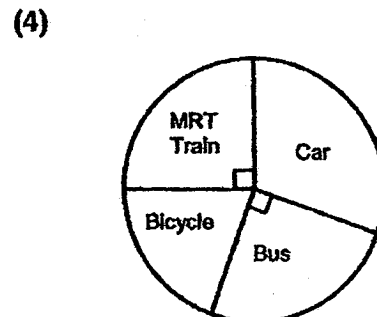
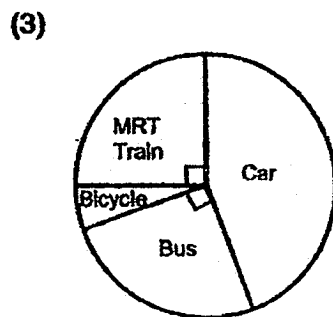
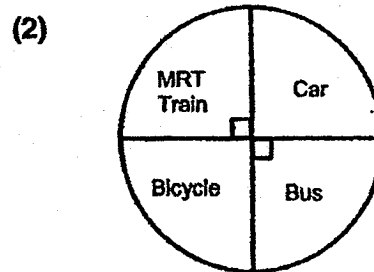
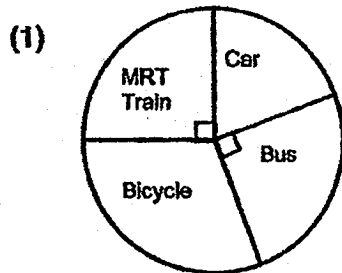


- 1) A
 - 2) B
 - 3) C
 - 4) D
5. 4 bags of sugar cost \$13.60. How much does 1 bag of sugar cost?
- 1) \$3.20
 - 2) \$3.40
 - 3) \$6.40
 - 4) \$6.80

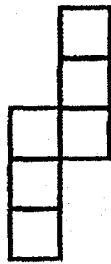
6. The bar graph shows the number of students who took different types of transport to school.



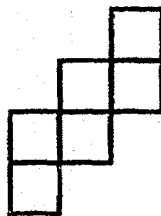
Which pie chart best represents the information in the bar graph?



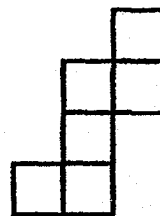
7. Which of the following 4 figures below is **NOT** the net of a cube?



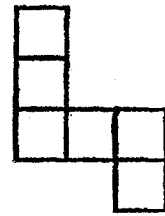
(1)



(2)



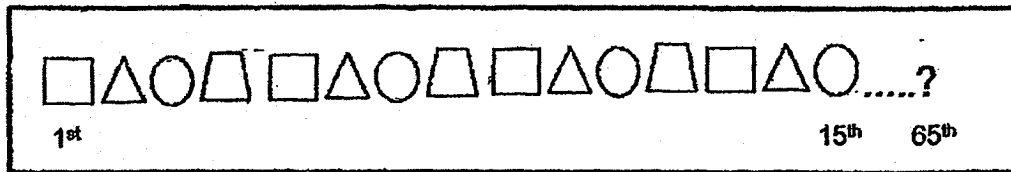
(3)



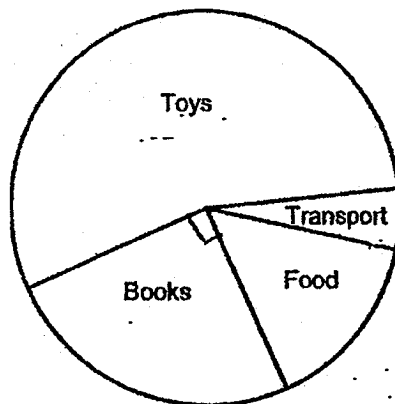
(4)

8. Tina used stickers of four different shapes to make a pattern. The first 15 stickers are shown below.

What is the shape in the 65th position?



9. The length of each side of a square is an even number. Which one of the following can be the perimeter of the square?
- 1) 15 cm
 - 2) 24 cm
 - 3) 36 cm
 - 4) 44 cm
10. The pie chart shows how Mathew spent his pocket money last week. $\frac{1}{4}$ of his money was spent on books and $\frac{1}{5}$ of his money was spent on food and transport. He spent 3 times as much on food as transport. What was the ratio of the amount of money Matthew spent on food to the amount he spent on toys?



- 1) 1 : 5
- 2) 3 : 4
- 3) 3 : 11
- 4) 5 : 11

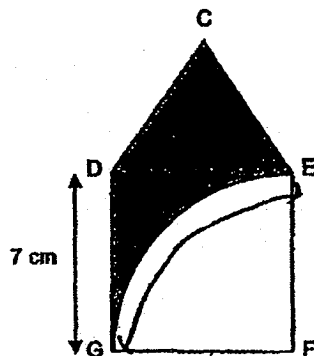
11. $\frac{1}{4}$ of a pole is painted white and $\frac{1}{2}$ of the remainder is painted red.

What fraction of the pole is not painted?

- 1) $\frac{1}{4}$
- 2) $\frac{3}{8}$
- 3) $\frac{1}{2}$
- 4) $\frac{5}{8}$

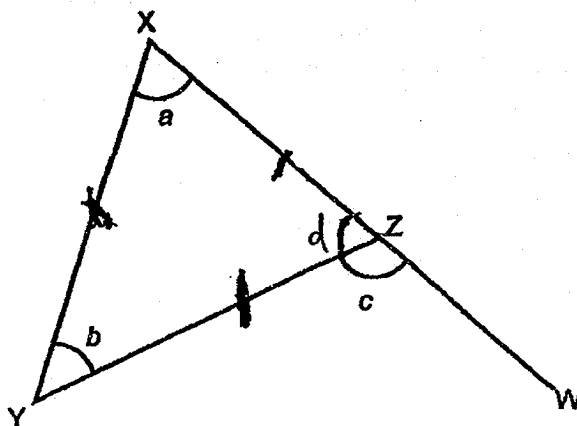
12. The figure below is made up of an equilateral triangle CDE and a square DEFG of length 7 cm with a quadrant in it. Find the perimeter of the shaded region. Take $\pi = \frac{22}{7}$.

- 1) 11 cm
- 2) 32 cm
- 3) 39 cm
- 4) 65 cm



13. At 09 00, a lorry left Town X for Town Y travelling at a speed of 70 km/h. At the same time, a car left Town Y for Town X travelling at a speed of 90 km/h. The distance between Town X and Town Y is 480 km. At what time did the lorry and car pass each other?
- 1) 12 00
 - 2) 13 00
 - 3) 14 00
 - 4) 15 00
14. A ribbon was first cut into 2 pieces in the ratio 1 : 3. The longer piece was then cut into two pieces in the ratio 3 : 2. The shortest piece was 20 cm shorter than the longest piece. What was the length of the ribbon before it was cut?
- 1) 40 cm
 - 2) 80 cm
 - 3) 90 cm
 - 4) 100 cm

15. In the figure below, not drawn to scale, XYZ is an isosceles triangle where $XZ = ZY$. XZW is a straight line. Three angles are labelled as a , b and c .



Which of the following statements is true?

- (1) $\angle a + \angle b = 180^\circ - \angle c$
- (2) $\angle b = \angle c$
- (3) $\angle b = 180^\circ - \angle a$
- (4) $\angle c = 2\angle a$

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.

(5 marks)

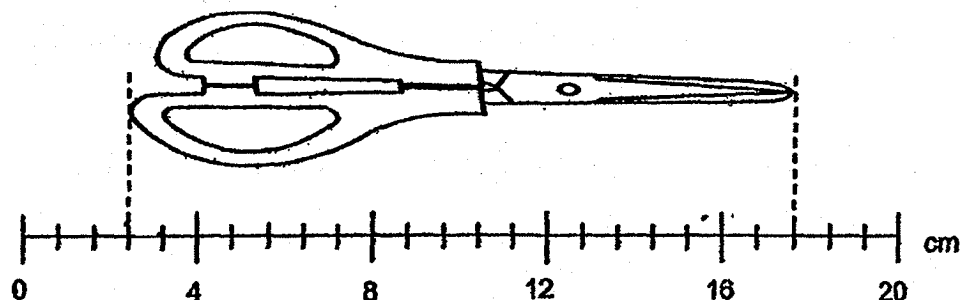
16. $\frac{5}{8}$ of the children in a field are girls. There are 45 boys. How many girls are there?

Ans : _____

17. The total volume of 8 identical cans of soda is 2.56 L. What is the total volume of 2 cans of soda in millilitres?

Ans : _____ ml

18. A pair of scissors is placed next to the scale. What is the length of the pair of scissors?



Ans : _____ cm

19. The shaded figure is made up of 6 equilateral triangles. The length of straight line XY is 21 cm. Find the perimeter of the shaded figure.



Ans : _____ cm

20. Jane and Susan had some beads. After Jane gave 23 beads to Susan, she had 30 more than Susan. How many more beads did Jane have than Susan at first?

Ans : _____

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. (20 marks)

21. A is $2\frac{1}{3}$ times as large as B. Express B as a fraction of A.

Ans : _____

22. Participants of a competition must obtain at least a certain score to qualify for a prize. There were 120 participants. The table shows the number of participants for each score.

Score	Number of Participants
0	11
1	28
2	33
3	12
4	21
5 or more	15

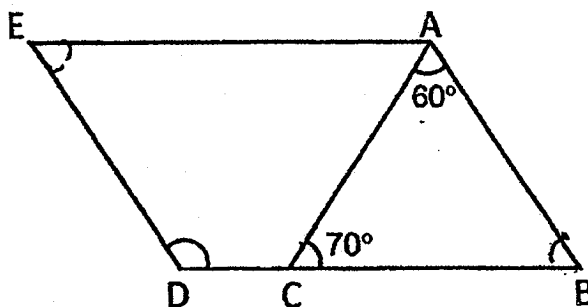
40% of the participants won a prize. From the table, what was the lowest score for a participant to qualify for a prize?

Ans : _____

23. The number of pears Mr Tay has is less than 50. If he sells his pears in packets of 4 or 7, he will have 3 pears left. How many pears does he have?

Ans : _____

24. In the figure below, not drawn to scale, ABDE is a parallelogram. $\angle ACB = 70^\circ$ and $\angle BAC = 60^\circ$. Find $\angle EDC$.

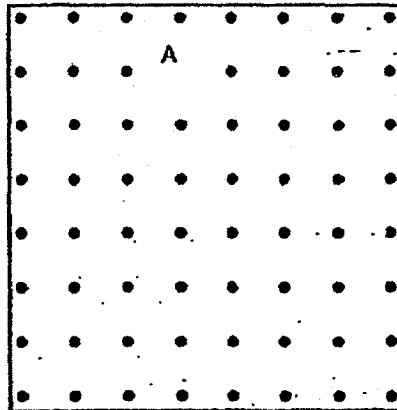


Ans : _____ °

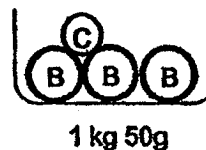
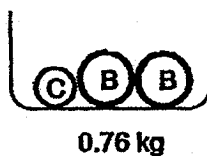
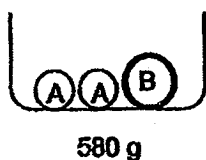
25. Catherine and Daphne shared some money. Catherine had $\$4d$ and Daphne had $\$(2d + 80)$. Both of them had $\$560$ altogether. Find the value of d .

Ans : \$ _____

26. The grid below shows a straight line. Draw another straight line that is parallel to it and passes through the white dot marked as A. This line must start on a black dot and end on another black dot.



27. 3 objects A, B and C of different masses were placed in identical containers and weighed. Their mass was recorded. What was the mass of A?
Give your answer in grams.

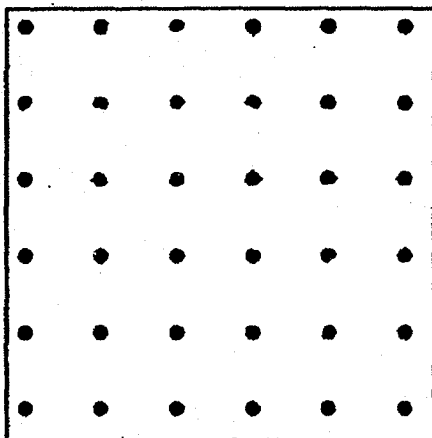


Ans : _____ g

28. The average mass of a group of 6 adults is 65 kg and the average mass of another group of 4 adults is 80 kg. What is the average mass of all the adults in the 2 groups?

Ans : _____ kg

29. The figure below shows an incomplete net of a cuboid. Within the grid, draw a rectangle to complete the net.



30. During a sale, the price of a bag was \$32 after a 20% discount. Henry was given a further discount of \$4. What was the total percentage discount given?

Ans : _____ %



Anglo-Chinese School (Junior)
Anglo-Chinese School (Primary)

2018 PRELIMINARY EXAMINATION
MATHEMATICS
PAPER 2
PRIMARY SIX

Name: _____ () Class: Primary 6 _____

Date: 24 August 2018

Duration of Paper 2: 1 hour 30 minutes

Parent's/Guardian's signature

INSTRUCTIONS TO CANDIDATES

1. This question paper consists of 10 printed pages, including the cover page.
2. Do not turn this page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. You are allowed to use a calculator.

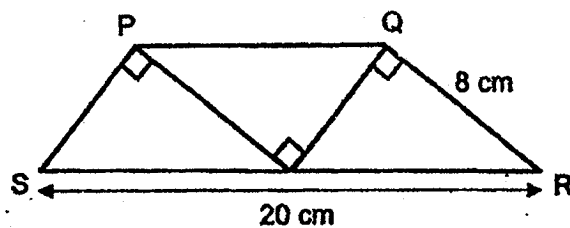
Paper 2		
Section A. Short Answers	10	
Paper 2		
Section B. Problem Sums	45	
Total Marks	55	

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)

1. At a funfair, candies are only sold in packets of 9. Each packet is sold at \$5. One candy is given free for every two packets bought. What is the maximum number of candies Peter will receive when he spent \$25?

Ans : _____

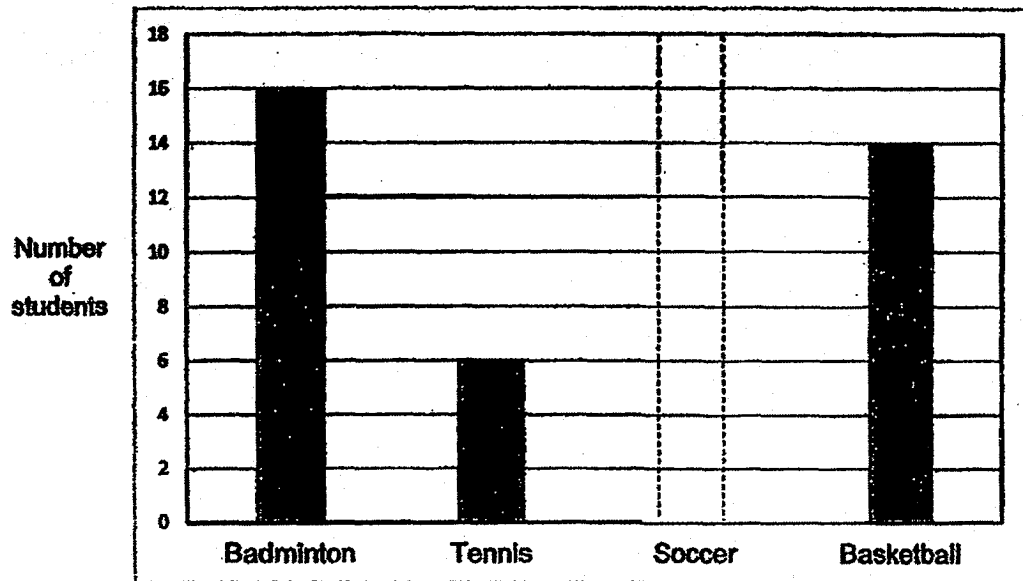
2. Mysha cut out three identical right-angled triangles. She joined them to form a figure PQRS as shown below. $SR = 20$ cm and $QR = 8$ cm. The perimeter of the figure PQRS is 44 cm. Find the area of the figure PQRS.



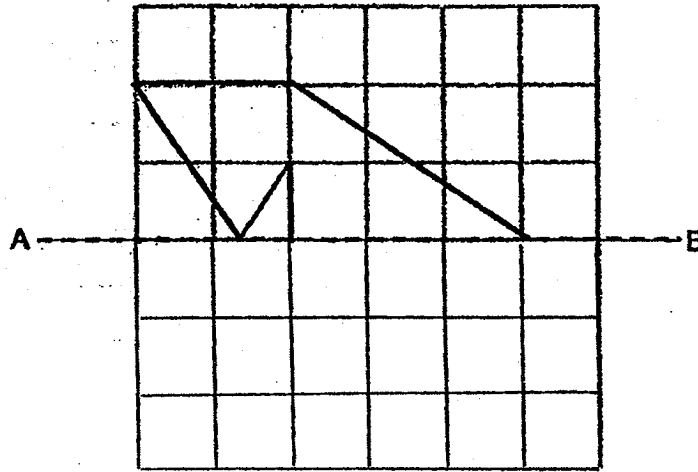
Ans : _____ cm²

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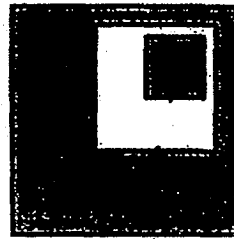
3. The bar graph shows the number of students playing in the various sports during the school's games day. $\frac{1}{4}$ of the students play soccer. Draw the bar that shows the number of students who play soccer.



4. In the figure below, draw 3 more straight lines to form a symmetric figure with AB as the line of symmetry.



5. Mrs Lee drew 3 squares to form a figure. The areas of the squares were in the ratio 1 : 4 : 13. She then shaded some parts of the figure as shown below. What is the ratio of the shaded parts to the unshaded part of the figure?



Ans : _____

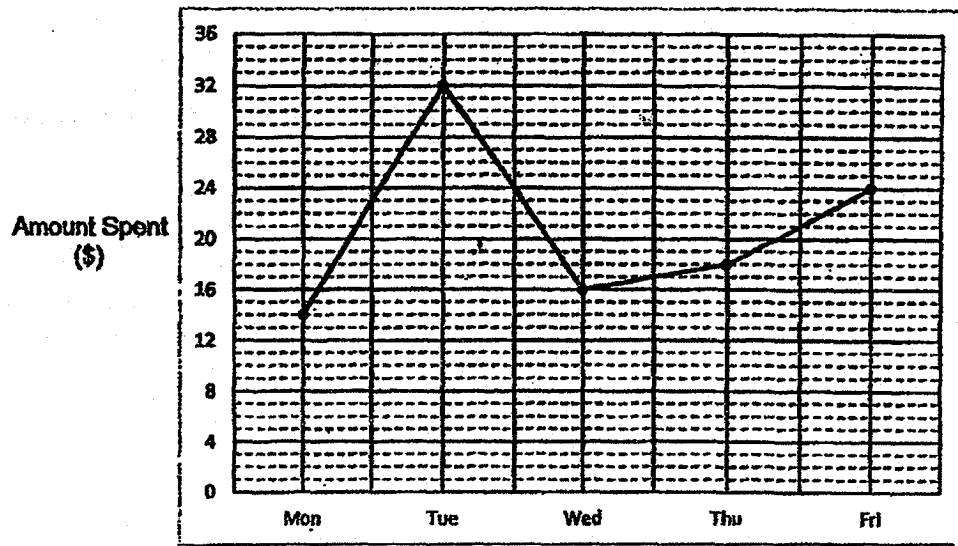
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For questions 6 to 17, show your working clearly question and write your answers in the spaces provided. The number of marks available is shown in brackets [] at the end of each question or part-question. (45 marks)

6. Tom had $\frac{4}{5}$ as many stamps as Michael. After Michael gave away $\frac{3}{7}$ of his stamps, Tom had 40 more stamps than Michael. How many stamps did Tom have?

Ans : _____ . [3]

7. Susan received \$40 each day for food and transport. She saved the rest of the amount of money after she spent on food and transport. The graph shows the daily amount of money she spent from Monday to Friday.



- (a) What is the difference between the amount Susan spent on Wednesday and Friday?
- (b) What was the total amount of money she saved on Monday and Tuesday?
- (c) Write down all the days in which Susan saved more than half of her daily amount of money.

Ans : (a) _____ [1]

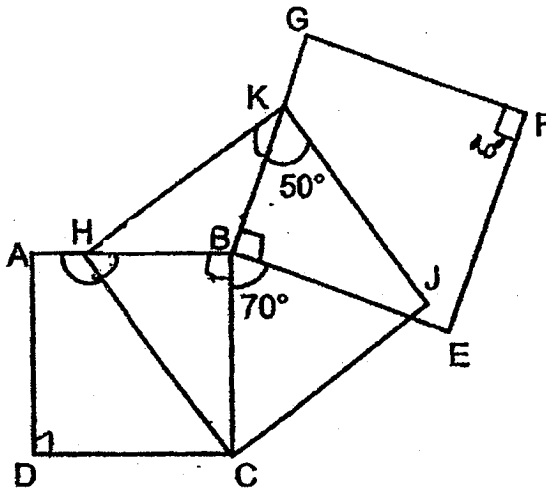
(b) _____ [1]

(c) _____ [1]

8. Ali and Sara started jogging from the same place in opposite directions along a straight path. Both of them did not change their speed. After jogging for 40 minutes, they were 7 km apart. Ali's average speed was 30 m/min faster than Sara's. How far did Ali jog?

Ans : _____ [3]

9. In the figure below, not drawn to scale, ABCD, HKJC and BGFE are squares. $\angle BKJ = 50^\circ$ and $\angle CBE = 70^\circ$. Find $\angle AHC$.



Ans : _____ [3]

10. The table below shows the price of pencils and erasers sold at a bookshop.

Item	Price per item
Pencil	b cents
Eraser	$(b + 10)$ cents

- (a) Azhar bought 3 pencils and 1 eraser. How much did he spend?
Give your answer in terms of b .
- (b) Raman paid \$5.50 for 8 pencils and a number of erasers.
If $b = 35$, how many erasers did he buy?

Ans : (a) _____ [1]

(b) _____ [2]

11. A total of \$1 332.50 was collected from the sales of adult and child tickets to a concert. \$635.50 more was collected from the sale of the adult tickets than the child tickets. Each child ticket cost \$3.50 less than an adult ticket. There were twice as many adult tickets sold as the child tickets. Find the total number of children who went to the concert.

Ans : _____ [4]

12. Michael uses identical shaded and unshaded triangles to form figures that follow a pattern as shown below.



Figure 1

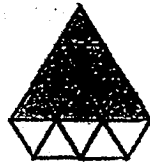


Figure 2

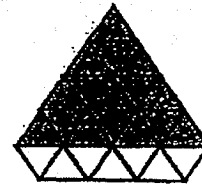


Figure 3

- (a) The table shows the number of shaded and unshaded triangles for the first three figures. Complete the table for Figure 4.

Figure Number	1	2	3	4
Number of shaded triangles	4	9	16	
Number of unshaded triangles	3	5	7	
Total number of shaded and unshaded triangles	7	14	23	

[1]

- (b) A figure in the pattern has a total of 529 shaded triangles. What is the Figure Number?
- (c) Another figure in the pattern has a total of 63 unshaded triangles. What is the total number of shaded and unshaded triangles in this figure?

Ans : (b) _____ [1]

(c) _____ [2]

13. Ramesh had a rectangular block of wood 9 cm by 4 cm by 7 cm. He painted all the faces of the block.



- (a) What is the total painted area?
- (b) Ramesh cut the block into 1-cm cubes.
How many of these cubes have only 1 of their faces painted?

Ans : (a) _____ [2]

(b) _____ [2]

14. Jerry, Ken and Leon shared some stamps. Jerry took 408 stamps. Ken took $\frac{1}{4}$ of the remainder. Leon had 24% of the total number of stamps. How many stamps did the 3 boys have altogether?

Ans : _____ [4]

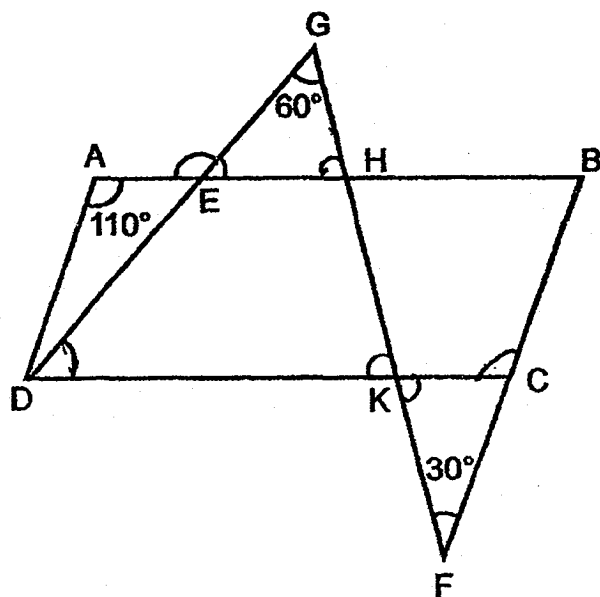
15. A group of girls sold an average of 60 balloons at a carnival. Then 2 boys joined the group. The two boys sold a total of 165 balloons. After the two boys joined the group, the average number of balloons sold by all the boys and girls became 65. How many girls were there in the group?

Ans : _____ [4]

16. In the figure below, not drawn to scale, ABCD is a parallelogram. GED, GHKF and BCF are straight lines. $\angle DAE = 110^\circ$, $\angle EGH = 60^\circ$ and $\angle KFC = 30^\circ$.

(a) Find $\angle KCF$

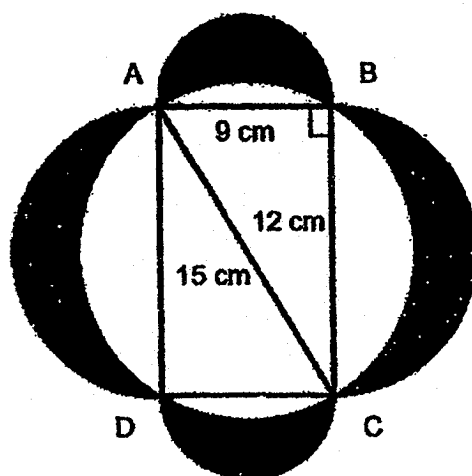
(b) Find $\angle AEG$



Ans : (a) _____ [2]

(b) _____ [3]

17. The figure is made up of four semi-circles and a rectangle ABCD. AB = 9 cm, BC = 12 cm and AC = 15 cm. Find the total area of the shaded parts. Take $\pi = 3.14$.



Ans : _____ [5]

End of Paper 2

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ANSWER KEY

YEAR : 2018
LEVEL : PRIMARY 6
SCHOOL : : ANGLO-CHINESE
SUBJECT : : MATHEMATICS
TERM : PRELIMINARY EXAMINATION

Paper 1

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

Q16 75 girls

Q17 640 ml

Q18 15.2 cm

Q19 84 cm

Q20 76 beads

Q21 $\frac{3}{7}$

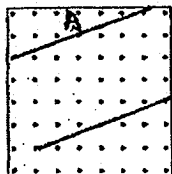
Q22 3

Q23 31 pears

Q24 130°

Q25 \$80

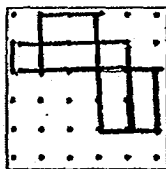
Q26



Q27 145 g

Q28 71 kg

Q29



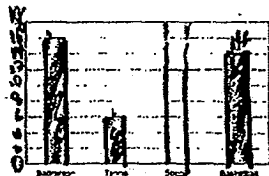
Q30 30%

Paper 2

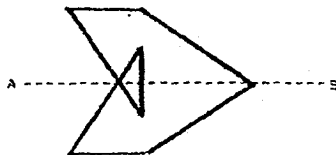
Q1 $9 \times 5 = 45$
 $45 + 2 \Rightarrow \underline{47 \text{ candies}}$

Q2 $44 - 30 = 14$
 $14 - 8 = 6$
 $\frac{1}{2} \times 8 \times 6 = 24$
 $24 \times 3 \Rightarrow \underline{72 \text{ cm}^2}$

Q3



Q4



Q5 **Shaded parts $\rightarrow 1 + (13 - 4) = 10$**
Unshaded part $\rightarrow 4 - 1 = 3$
 $S : U \Rightarrow \underline{10 : 3}$

Solutions to Word Problems
ACS Paper Paper 2
P6 Mathematics SA2 2018

Show your working clearly in the space provided for each question and write your answers in the spaces provided.

6. Let number of stamps Michael had at first = $35u$ (multiple of 5, 7)

$$\text{Number of stamps Tom had} = \frac{4}{5} \times 35u = 28u$$

$$\text{Number of stamps Michael gave away} = \frac{3}{7} \times 35u = 15u$$

$$\text{At last, number of stamps Michael had} = 35u - 15u = 20u$$

$$\text{Difference in number of stamps between Michael \& Tom} = 28u - 20u = 8u$$

$$8u = 40$$

$$u = 40 \div 8 = 5$$

$$\text{Number of stamps Tom had} = 28u = 28 \times 5 = 140$$

Ans: 140

-
7. a)

$$\text{Difference in spending between Wednesday and Friday} = 24 - 16 = \$8$$

- b)

$$\text{Total amount of spending on Monday and Tuesday} = 32 + 14 = \$46$$

$$\text{Total amount of savings on Monday and Tuesday} = 40 + 40 - 46 = \$34$$

- c)

Days when spending are below \$20 are Monday, Wednesday and Thursday.

Ans: (a) \$8
(b) \$34
(c) Mon,
Wed and Thurs.

8. Extra distance travelled by Ali = $30 \times 40 = 1200$ m
Distance Sara jogged = $(7000 - 1200) \div 2 = 2900$ m
Distance Ali jogged = $2900 + 1200 = 4100$ m = 4.1 km

Ans: 4.1 km

9. $\angle BKH = 90 - 50 = 40^\circ$
 $\angle HBK = 360 - 90 - 90 - 70 = 110^\circ$
 $\angle BHK = 180 - 40 - 110 = 30^\circ$
 $\angle BHC = 90 - 30 = 60^\circ$
 $\angle AHC = 180 - 60 = 120^\circ$

Ans: 120°

10. a)

Cost of 3 pencils and 1 eraser = $3b + b + 10 = 4b + 10$ cents

b)

Cost of 8 pencils = $8b = 8 \times 35 = 280$ cents = \$2.80Cost of erasers = $5.50 - 2.80 = 2.70$ Cost of each eraser = $35 + 10 = 45$ cents = \$0.45Number of erasers = $2.70 \div 0.45 = 6$

Ans: (a) $4b + 10$ cents
(b) 6

11. Children ticket sales = $(1\ 332.50 - 635.50) \div 2 = \348.50 Adult ticket sales = $348.50 + 635.50 = \$984$ Let number of children = u Number of adults = $2u$ Extra adult ticket cost due to \$3.50 extra = $2u \times 3.5 = 7u$ Total adult ticket cost = $2 \times \text{children ticket cost} + 7u =$ $2 \times 348.50 + 7u = 984$ $7u = 984 - 697 = 287$ $u = 287 \div 7 = 41$

Number of children who went to concert = 41

Ans: 41 children

12. a)

Figure number = n Number of shaded triangles = $(n+1) \times (n+1)$ Number of unshaded triangles = $2n + 1$

For Figure 4.

Number of shaded triangles = $5 \times 5 = 25$ Number of unshaded triangles = $4 \times 2 + 1 = 9$ Total number of triangles = $25 + 9 = 34$

b)

 $(n+1) \times (n+1) = 529 = 23 \times 23$ $n + 1 = 23$ $n = 23 - 1 = 22$

c)

unshaded triangles = $2n + 1 = 63$ $2n = 62$ $n = 62 \div 2 = 31$ Number of shaded triangles = $(n+1) \times (n+1) = 32 \times 32 = 1024$ Total triangles for Figure 31 = $63 + 1024 = 1087$

Ans: (a) 25, 9, 34
(b) 22
(c) 1087

13. a)

Total painted area = $9 \times 7 \times 2 + 9 \times 4 \times 2 + 4 \times 7 \times 2 = 254 \text{ cm}^2$

b)

Number of 1-cm cubes with 1 face painted = $(9-2) \times (7-2) \times 2 + (9-2) \times (4-2) \times 2 + (7-2) \times (4-2) \times 2 = 118$

Ans: (a) 254 cm^2
(b) 118

14. $\frac{3}{4}$ of remainder = 24% of total stamps

$$\frac{1}{4} \text{ of remainder} = 24 \div 3 = 8\% \text{ of total stamps}$$

$$\text{Percentage of Jerry's stamps} = 100 - 24 - 8 = 68\%$$

$$68\% \rightarrow 408 \text{ stamps}$$

$$1\% \rightarrow 6$$

$$100\% \rightarrow 6 \times 100 = 600$$

Ans: 600

15. Excess amount the boys sold = $165 - 65 - 65 = 35$

$$\text{Difference in averages} = 65 - 60 = 5$$

$$\text{Number of girls} = 35 \div 5 = 7$$

Ans: 7

16. a)

$$\angle KCB = 110^\circ$$

$$\angle KCF = 180 - 110 = 70^\circ$$

b)

$$\angle CKF = 180 - 70 - 30 = 80^\circ$$

$$\angle EHG = \angle DKH = \angle CKF = 80^\circ$$

$$\angle GEH = 180 - 60 - 80 = 40^\circ$$

$$\angle AEG = 180 - 40 = 140^\circ$$

Ans: (a) 70° (b) 140°

17. Area of 4 semi-circles = $\pi \times 4.5 \times 4.5 + \pi \times 6 \times 6 = 56.25\pi \text{ cm}^2$

Area of rectangle = $9 \times 12 = 108 \text{ cm}^2$

Area of large circle = $\pi \times 7.5 \times 7.5 = 56.25\pi \text{ cm}^2$

Shaded area = $56.25\pi + 108 - 56.25\pi = 108 \text{ cm}^2$

Ans: 108 cm^2
