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

COMBINED PRELIMINARY EXAMINATION (2014) PRIMARY 6

MATHEMATICS

PAPER 1
Booklet A

Wednesday   **20 AUGUST 2014**   **50 min**

INSTRUCTIONS TO PUPILS
1. Do not turn over this page until you are told to do so
2. Follow all instructions carefully.
3. Answer all questions.
4. Shade your answers in the Optical Answer Sheet (OAS) provided.
5. The use of calculators is **NOT** allowed

Name : _____ ( )

Class : 6.( )

Parent's Signature:_____

This question paper consists of 9 printed pages. (Inclusive of cover 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 (OAS).   (20 marks)

1.   Which one of the following numbers is the smallest?

    1)   0.807
    2)   0.087
    3)   0.708·
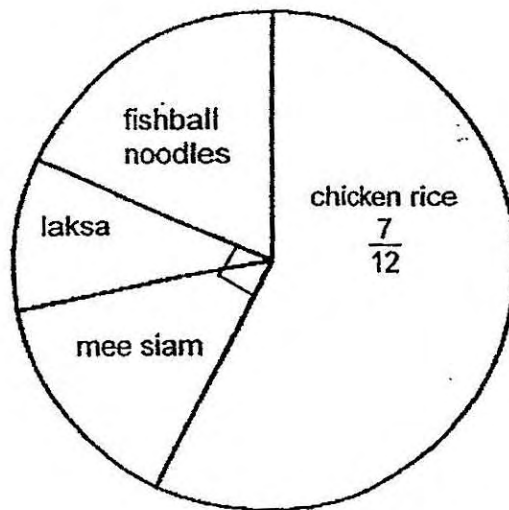   4)   0.078

2.   Express 2 h 5 min in minutes.

    1)   65 minutes
    2)   125 minutes
    3)   205 minutes
    4)   250 minutes

3.   Round off 38 949 to the nearest hundred.

    1)   38 900
   2)   38 940
    3)   38 950
    4)   39 000

4. The pie chart shows the favourite food of a group of children. What is the ratio of the number of children who chose fishball noodles to the number of children who chose chicken rice?

1) 1 : 2
2) 1 : 7
3) 1 : 6
4) 2 : 7

5. The figure below shows a cuboid with a square base of area 25 cm^2. The height of the cuboid is 7cm. What is the area of the shaded face?
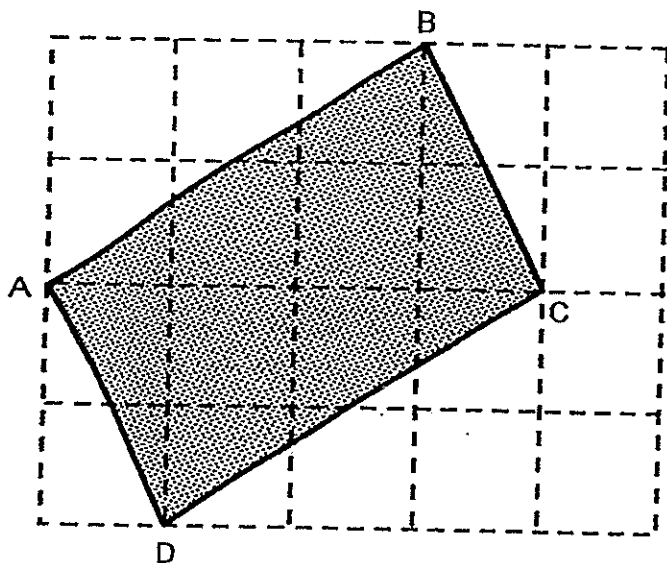
1) 5 cm^2

2) 35 cm^2

3) 125 cm^2

4) 175 cm^2
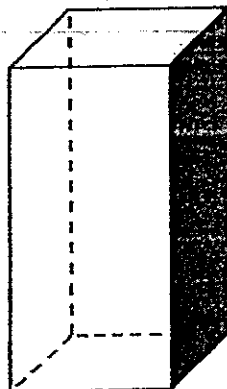
6. Mrs Tan has $540. She spent $\frac{1}{4}$ of her money on Saturday and $\frac{2}{5}$ of her money on Sunday. How much more did she spend on Sunday than on Saturday?

1) $81

2) $135

3) $216

4) $351
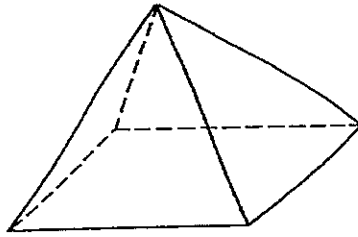
7. Quadrilateral ABCD is drawn on a square grid.

Quadrilateral ABCD is a _____.

1) Rhombus
2) Rectangle
3) Trapezium
4) Parallelogram

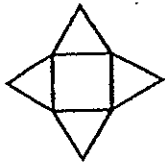8. If $y = 6$, what is the value of $13 - (5 + y - \frac{2y}{3})$.

1) 10
2) 7
3) 6
4) 4

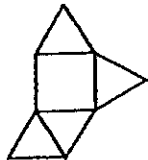9.   The figure below shows a right pyramid with a square base.

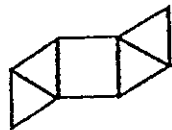Which one of the following is **not** a net of the solid?
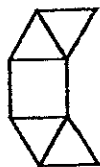
1)

2)

3)

4)

10. The number of pigs in a farm is twice the number of chickens. A pig has 4 legs and a chicken has 2 legs. Given that there are 6 chickens, find the total number of legs these animals have.

1) 24
2) 36
3) 48
4) 60

11. Study the table below.

| Fitness Test Standards for Boys		
Performance Grade	Points	Standing Broad Jump
A	5	More than 202 cm
B	4	189 – 202 cm
C	3	176 – 188 cm
D	2	163 – 175 cm
E	1	150 – 162 cm

At the Standing Broad Jump station, Henry jumped a distance of 179 cm and Wayne jumped a distance of 206 cm. How far must Tim jump so that the average number of points of the three boys was 4 points?

1) 157 cm
2) 170 cm
3) 184 cm
4) 202 cm

12. The amount of money Sam had to the amount of money Gerald had was 4 : 3. Sam had $18 more than Gerald. He gave some money to Gerald and the amount of money Sam had to the amount of money Gerald had became 1 : 2. How much did Sam give to Gerald?
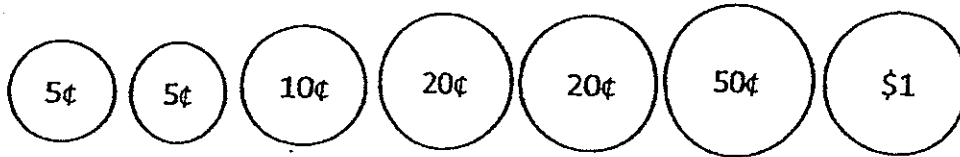
1) $6
2) $18
3) $30
4) $90

13. In the figure, AB, CD, EF and GH are straight lines. Find ∠FGH.
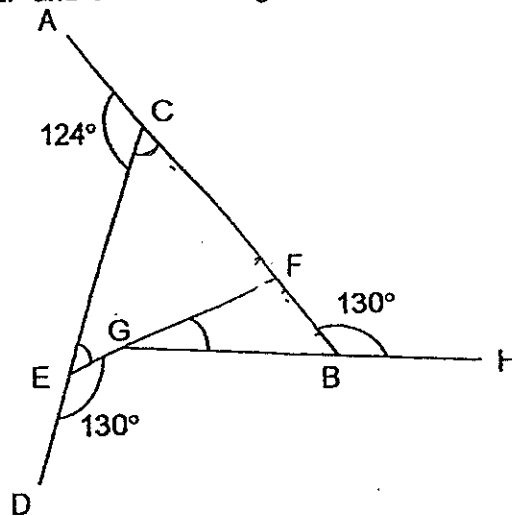
1) 24°
2) 50°
3) 56°
4) 74°

14.   Amy had the following coins in her coin pouch.

(5¢)(5¢)(10¢)(20¢)(20¢)(50¢)($1)

She took out 3 coins from her pouch and placed them into a donation can. Which of the following amounts could **not** be the amount taken out of her pouch?

1) $ 0.45
2) $ 0.75
3) $ 0.85
4) $ 1.15

15.   5 similar tins and 8 similar bottles can hold 36 litres of oil. Given that each tin can hold twice as much oil as each bottle, how much oil can each tin hold?

1)   16ℓ
2)   2ℓ
3)   20ℓ
4)   4ℓ

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

COMBINED PRELIMINARY EXAMINATION (2014)
PRIMARY 6

MATHEMATICS

PAPER 1
Booklet B

Wednesday   20 AUGUST 2014   50 min

INSTRUCTIONS TO PUPILS
1. Do not turn over this page until you are told to do so
2. Follow all instructions carefully.
3. Answer all questions.
4. Write your answers in this booklet.
5. The use of calculators is **NOT** allowed

Name : _____ (   )

Class : 6.(   )

Parent's Signature: _____

This question paper consists of 9 printed pages. (Inclusive of cover page)

Questions **16** to **25** carry 1 mark each. Write your answers in the spaces provided. Give your answers in the units stated and to its simplest form whenever necessary. (10 marks)

16. What does the digit 4 in 946 782 stand for?

Answer : _____

17. In the figure below, XYZ is a straight line. What is the area of triangle WYZ?
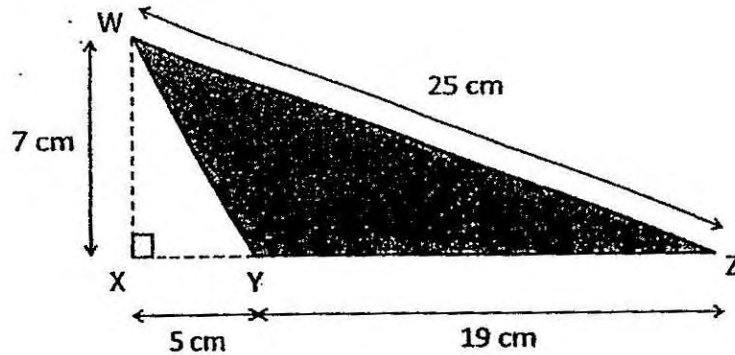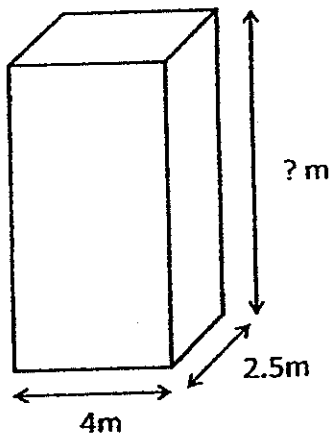

Answer : _____ cm²

18. Mrs Bala went to a fruit store with $50. She bought 2 papayas and 9 apples. 1 papaya cost $2k and 3 apples cost $k. How much had she left after her purchases? Give your answer in terms of k in its simplest form.

Answer : $ _____

19. The capacity of the rectangular tank shown below is 89 m³. What is the height of the tank?

Answer : _____ m

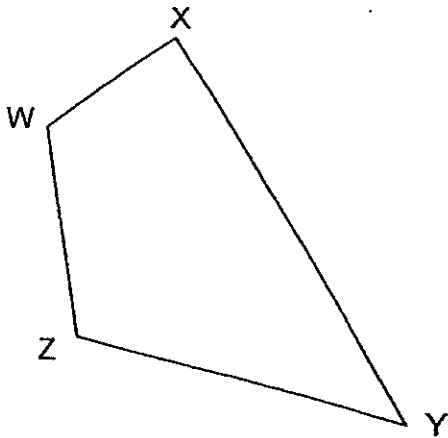20. Dave finished his 1.6 km run in 9 min 39 s. Muthy finished his 1.6 km run in 7 min 45 s. How much faster was Muthy in the 1.6 km run? Give your answer in seconds.

Answer : _____ s

21. Measure and write down the size of ∠XYZ.

Answer : _____ °

22. Refer to the square grid below and fill in the blanks with P, Q, R, S, T or U.
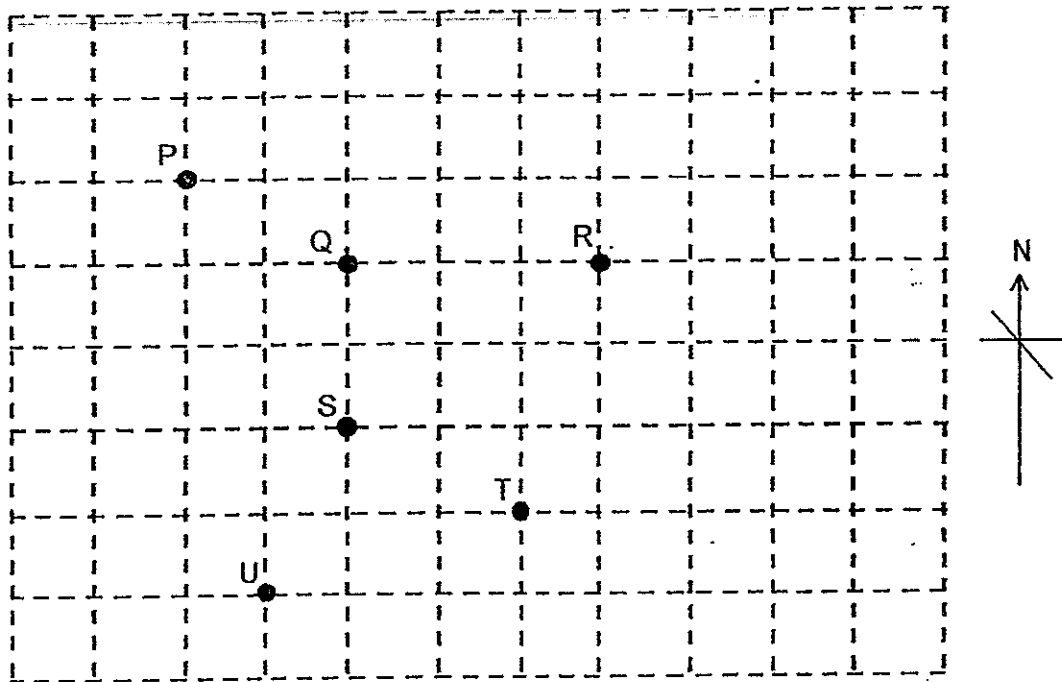
Point _____ is north-west of Point _____.

Answer : _____ and _____

23. Peter had a piece of string that was 3.05 m long. He cut off 2.5 m from it. What is the length of the remaining string?

Answer : _____ cm

24. Simplify $95 \div (7 - 2) + 4 \times 2$.

Answer : _____

25. The sum of 2 numbers is 220. Their difference is 20. What is the greater number?

Answer : _____

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.   (10 marks)

26.   Silas has $m. Muthu has $8 more than Silas. Ken has half of what Silas and Muthu have altogether. How much does Ken have?

Answer : $ _____

27.   Mrs Lee had $210. She spent 40% of her money on a dress. She then spent 20% of the remainder on a scarf. How much did she spend on the scarf?

Answer : $ _____

28. The graph below shows the number of books the pupils borrowed from a school library in five days. The bar that shows the number of books borrowed on Wednesday has not been drawn.

Number of books borrowed
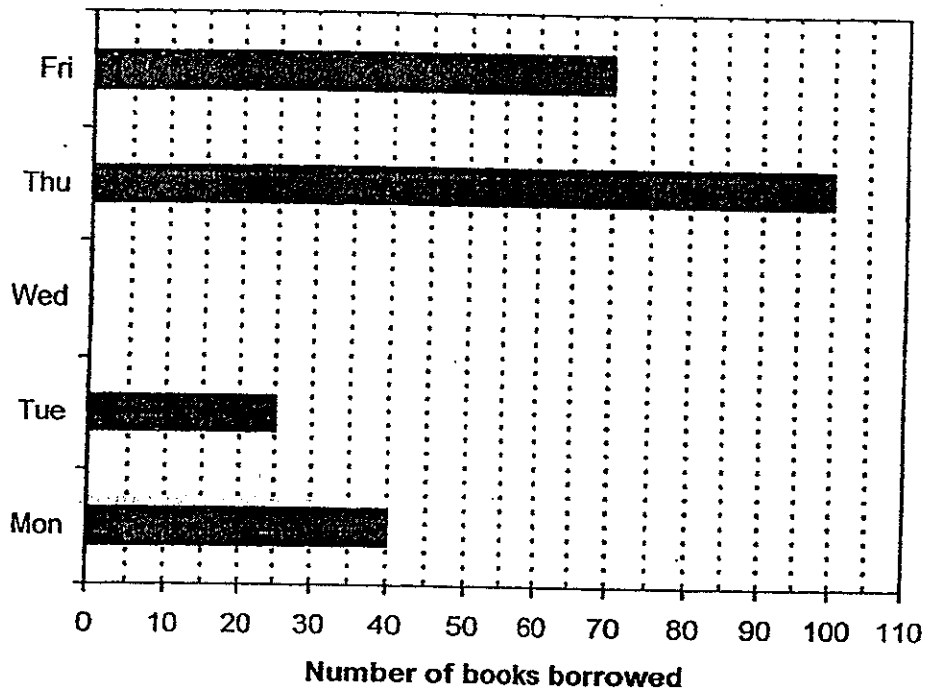
(a) The average number of books borrowed each day from Monday to Friday was 64. Find the total number of books borrowed on **Wednesday**.

Answer : _____

(b) What was the percentage decrease in the number of books borrowed from Monday to Tuesday?

Answer : _____ %

Sub-Total :

29. The perimeter of a rectangle is 72cm. Its length is 3 times its breadth. What is the area of this rectangle?

Answer : _____ cm^2

30. Susan bought a pizza and ate $\frac{1}{3}$ of it. She cut the remaining equally into 4 slices. What fraction of the whole pizza was each slice?

Answer : _____

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

COMBINED PRELIMINARY EXAMINATION (2014)
PRIMARY 6

MATHEMATICS

PAPER 2

Wednesday   20 AUGUST 2014   1hr 40 min

INSTRUCTIONS TO PUPILS
1. Do not turn over this page until you are told to do so
2. Follow all instructions carefully.
3. Answer all questions.
4. Show all your workings as marks are awarded for correct working.
5. Write your answers in this booklet.
6. The use of an approved calculator is expected, where appropriate.

Name : _____ (   )

Class : 6.(   )

Parent's Signature:_____

Booklet / Paper	Possible Marks	Marks Obtained
Booklet A	20	
Booklet B	20	
Paper 2	60	
Total	100	

This question paper consists of 15 printed pages. (Inclusive of cover 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)**

1. The average age of 3 boys is 12 yrs 3 mths. When another boy joins the group, their average age becomes 11 yrs 7 mths. What is the age of the fourth boy in years and months?

Answer : _____ yrs _____ mths

2. The following table shows the amount paid to workers per hour by a fast food company.

	Weekday Rate	Weekend Rate
FriesQueen	$6.55 / hr	$10.25 / hr

Every week, Mitch works 4 weekdays for 6 hours each day and on Saturday for 8 hours. How much does he earn in a week?

Answer : $ _____

3. Danny is making some Bubble Tea according to the following recipe.

Bubble Tea
(makes 3 glasses)

45g soya powder
250ml water
25g pearls

He has 160g of soya powder, 1050ml of water and 200g of pearls. What is the maximum number of glasses of Bubble Tea he can make?

Answer: _____

4. Michael had 8 stickers more than Andy. Andy had 10 stickers more than Franklin. Given that the three boys had a total of 280 stickers, how many stickers did Michael have?

Answer : _____

Sub-Total : [   ]

5. The pattern in the box shows part of a tessellation. Extend the tessellation by drawing **two** more unit shapes in the space provided within the box.
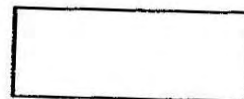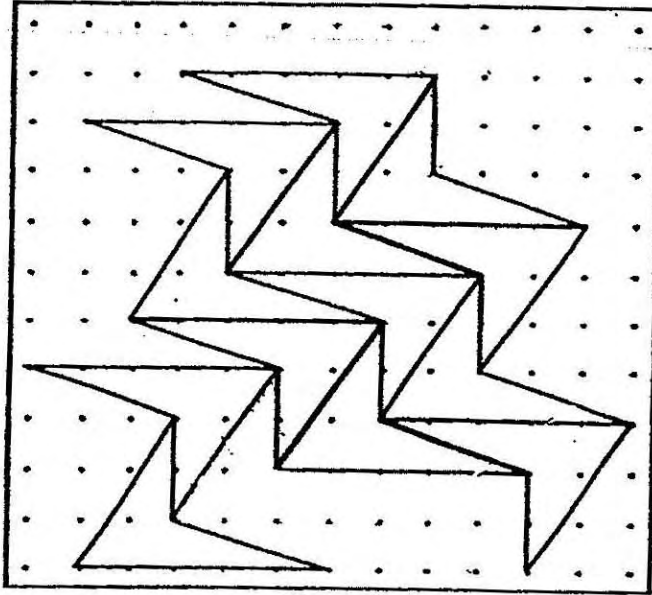
For questions **6** to **18**, show your working clearly question and write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part-question.   (50 marks)

6. The total amount of water in Jar A and Jar B is 1050 mℓ. The total amount of water in Jar B and Jar C is 1320 mℓ. The amount of water in Jar A is $\frac{1}{2}$ the amount of water in Jar C. What is the average amount of water in the three jars?

Answer : _____ [3]

7. A tank was $\frac{1}{3}$ filled with water at first. Dillon turned on a tap and let water flow into the tank at a rate of 1.36 ℓ per minute. After 15 minutes, he turned off the tap. How much water had overflowed?

24cm

22cm

55cm
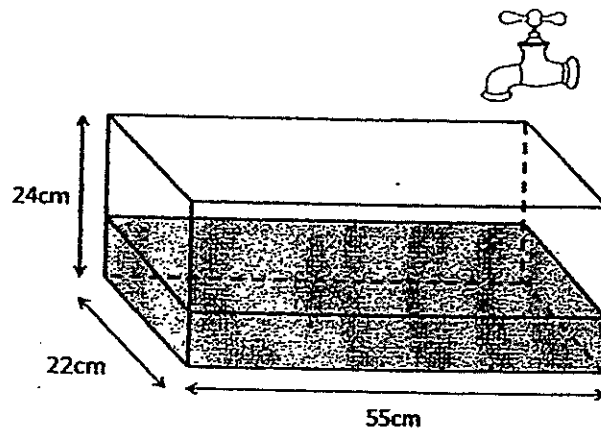
Answer : _____ [3]

Sub-Total ·

8. DIZ Orchestra performed at the concert hall on two evenings. On the first evening, there were 70 more men than women in the audience. On the second evening, the number of men decreased by 10% and the number of women increased by 20%. Given that there were 1428 men and women on the second evening, how many men were present on the second evening?

Answer : _____ [3]

9. Three sisters gave an equal amount of money to buy a present for their mother. Tracy used $\frac{3}{5}$ of her money, Nancy used $\frac{1}{2}$ of her money and Lancy used $\frac{2}{3}$ of hers. They had a total of $1395 at first. How much money did each sister give for the present?

Answer : _____ [3]

10. In the figure, ABC and ADE are right-angled triangles and EA is parallel to BC.
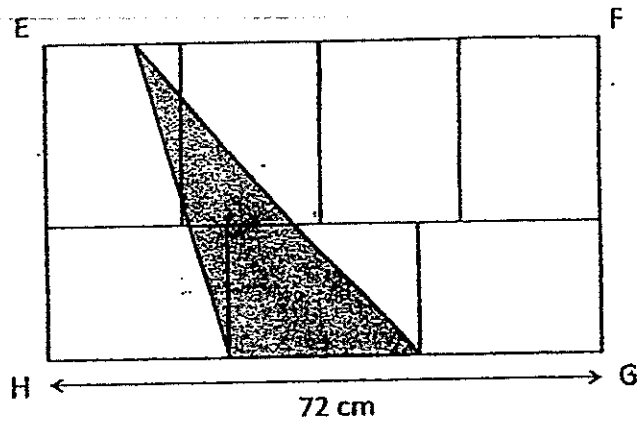
Find (a) ∠ACB, and
       (b) ∠AEB.

Answer : (a) _____ [2]

(b) _____ [1]

Sub-Total :
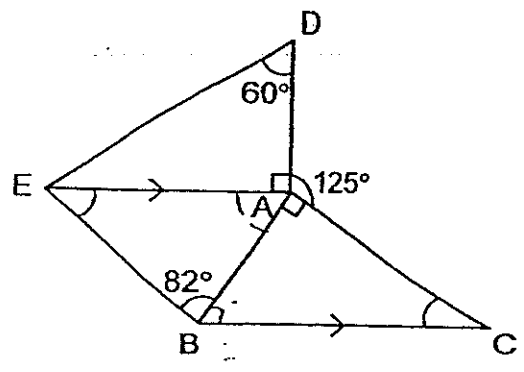
11. In the figure below, rectangle EFGH is made up of 7 identical rectangles.

    (a) Find the perimeter of rectangle EFGH.

    (b) Find the area of the shaded triangle.

Answer : (a) _____ [3]

    (b) _____ [1]

12. Josiah, Gerald and Marcus had a total of 1280 stamps in their collection. Josiah gave away $\frac{2}{5}$ of his stamp collections. Gerald gave away 120 stamps and Marcus gave away twice as many stamps as Josiah. In the end, they had 740 stamps left. How many stamps did Gerald and Marcus have altogether in the end?

Answer : _____ [4]

13. A piece of paper in the shape of a rectangle is folded along the dotted line as shown below.

Find (a) ∠x, and
     (b) ∠y
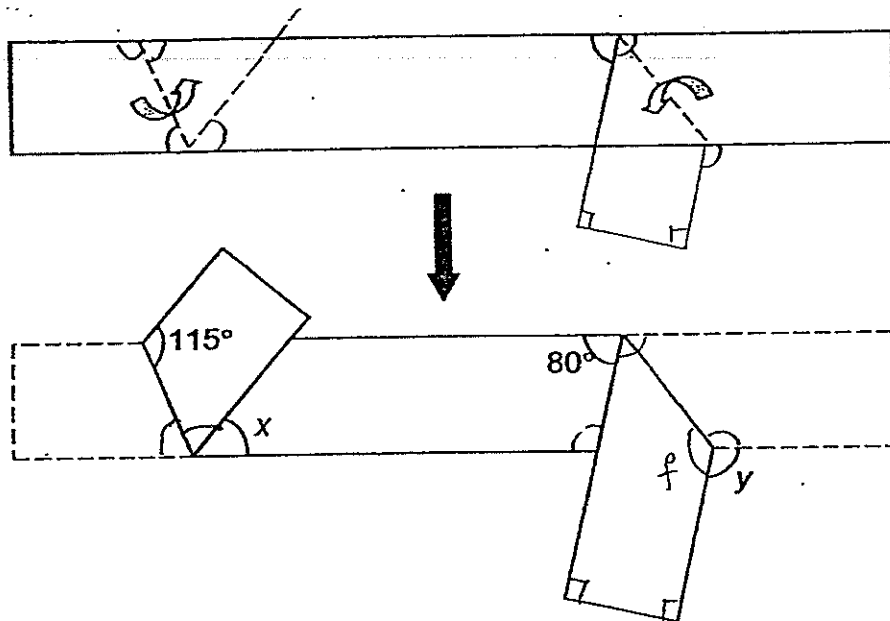
Answer : (a) _____ [2]

(b) _____ [2]

14. At 08 00, Ruben started from Town X and travelled towards Town Y and did not change his speed. At 09 00, Mingwei started his journey from Town X towards Town Y at an average speed of 72 km/h. Mingwei overtook Ruben at 12 00. After overtaking, Mingwei carried on his journey at the same average speed and reached Town Y at 14 30.

(a) Find Ruben's average speed, in km/h.

(b) What is the distance between Town X and Town Y?

Answer : (a) _____ [2]

(b) _____ [2]

15. The water bill is charged at the following rates:

First 20 units	$0.73 per unit
Next 20 units	$0.90 per unit
After 40 units	$1.21 per unit

(a)   Mr Tan's family used 28 units. How much did Mr Tan pay?

(b)   Mr Lee's family used 48 units. How much did Mr Lee pay?

(c)   If Gary's family paid $26.30 for the water bill, how many units did they use?

Answer : (a) _____ [1]

(b) _____ [1]

(c) _____ [2]

16. John spent $4968 on bags and shoes. The number of pairs of shoes he bought was $\frac{2}{5}$ the number of bags he bought. The cost of a pair of shoes was $12 more than the cost of a bag. He paid $1512 more on bags than on shoes. Find the cost of a bag.

Answer : _____ [5]

17. The figure below is made up of a circle and 2 semi-circles. XY is the diameter of the circle. XY is 15 cm, XZ is 12 cm and YZ is 9 cm.

(a) What is the total area of the shaded parts?

(b) What is the total perimeter of the shaded parts?

(Take π = 3.14)

Ans: (a) _____ [3]

(b) _____ [2]

Sub-Total : [ ]
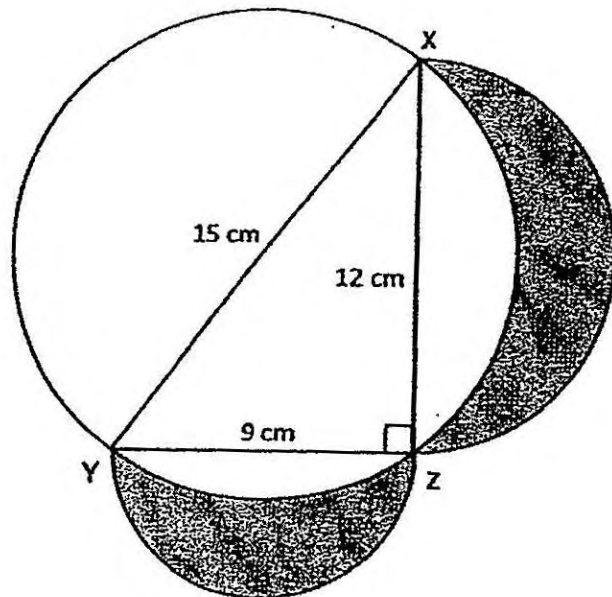
18. There were a total of 665 black and red pens in a box. The number of black pens to the number of red pens was 3 : 4. Some green pens and purple pens were put into the box. For every 5 red pens that were already in the box, 12 purple ones were added. Then the final number of black pens and green pens was $\frac{1}{4}$ the final number of red pens and purple pens. Find the ratio of the number of green pens to the number of purple pens. Give your answer in its simplest form.

Answer : _____ [5]

End of Paper 2

School: ANGLO-CHINESE SCHOOL (JUNIOR/PRIMARY)
Subject: PRIMARY 6 MATHEMATICS
Term: COMBINED PRELIM

Paper 1

1)	4	6)	1	11)	4
2)	2	7)	4	12)	3
3)	1	8)	3	13)	1
4)	4	9)	4	14)	3
5)	2	10)	4	15)	4

16. 40000

17. 66.5

18. $(50 - 7k)$

19. 8.9

20. 114

21. 44

22. P; T

23. 55

24. 27

25. 120

26. S → \$m
    M → \$(m + 8)
    K → $\$(\frac{2m + 8}{2})$

27. Scarf → $\frac{20}{100} \times 60 = 12\%$
    $\frac{12}{100} \times \$210 = \$25.20$

28. (a) 64 x 5 = 320
       40 + 25 + 70 + 100 = 235
       320 − 235 = **85**
    (b) 40 − 25 = 15
       $\frac{15}{40} \times 100\% = \textbf{37.5\%}$

29. 8u → 72
    1u → 9
    3u → 27

27 x 9 = **243**

30. $^2/_3 \div 4 = {}^1/_6$

Paper 2

1. 3 boys:
   Average → 12 years 3 months
   Total → 36 years 9 months
   4 boys:
   Average → 11 years 7 months
   Total → 44 years 28 months
   44 − 36 = 8 years
   28 − 9 = 19 months
   Total: **8 years 19 months**

2. 1 weekday (6hrs) → $6.55 x 6 = $39.90
   4 weekdays (24hrs) → $6.55 x 24 = $157.20
   Weekend: 1hr → $10.25
             8 hrs → $10.25 x 8 = $82
   $157.20 + $82 = **$239.20**

3. 160 ÷ 45 = 3.55
   1050 ÷ 250 = 4.2
   200 ÷ 25 = 8
   3 x 3 = **9**

4. 3u → 280 − 10 − 10 − 8 = 252
   1u → 84
   84 + 10 + 10 = **102**

5.
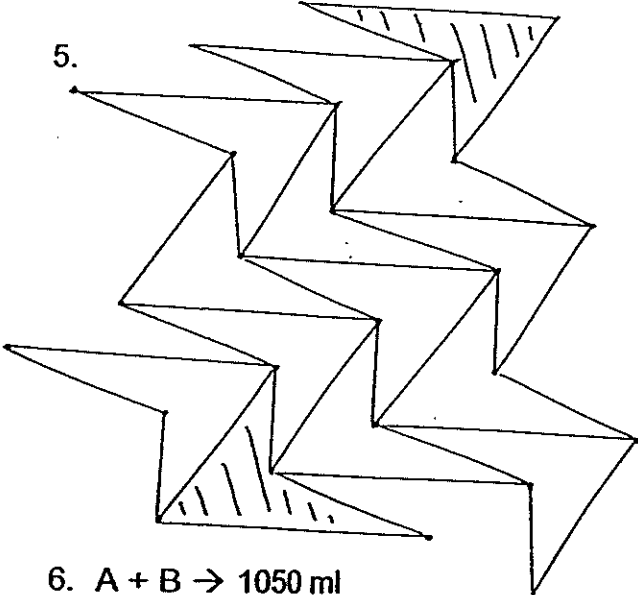
6. A + B → 1050 ml
   B + C → 1320 ml
   1320 ml − 1050 ml = 270 ml (A)
   A → 270 ml
   B → 1050 ml − 270 ml = 780 ml
   C → 270 ml x 2 = 540 ml

$1590 \div 3 = \textbf{530 ml}$

7. Total vol. $\rightarrow$ 24 x 22 x 55 = 29040
   Water vol. $\rightarrow$ 22 x 55 x 8 = 9680
   29040 – 9680 = 19360 cm^3 = 19.36 litres
   15 mins x 1.36 litres/min = 20.4 litres
   20.4 litres – 19.36 litres = **1.04 litres**

8. 2nd evening
   Men $\rightarrow$ 10u x 90% + 70 x 90% = 9 u + 63
   Women $\rightarrow$ 10u x 120% = 12u
   9u + 63 + 12u = 1428
   21u $\rightarrow$ 1428 – 63 = 1365
   1u $\rightarrow$ 65
   Men $\rightarrow$ 9 x 65 + 63 = 648

9. 31u $\rightarrow$ 1395
   1u $\rightarrow$ 45
   6u $\rightarrow$ **$270**

10. Angle EAB $\rightarrow$ 360 – 90 – 90 – 125 = 55° = angle ABC
    (a) Angle $\rightarrow$ 180 – 90 – 55 = **35°**
    (b) Angle 180 – 55 – 82 = **43°**

11. 4B $\rightarrow$ 72
    1B $\rightarrow$ 18
    3L $\rightarrow$ 72
    1L $\rightarrow$ 24
    24 ÷ 18 = 42
    (a) 42 x 2 + 72 x 2 = **228 cm**
    (b) 0.5 x 24 x 42 = **504 cm^2**

12. Give
    J $\rightarrow$ $^2/_5$ of hrs
    G $\rightarrow$ 120
    M $\rightarrow$ $^4/_5$ of y
    1280 – 740 = 540
    $^6/_5$ of J $\rightarrow$ 540 – 120 = 420
    $^1/_5$ of J $\rightarrow$ 70
    $^5/_5$ of J $\rightarrow$ 350
    $^3/_5$ of J $\rightarrow$ 210
    740 – 210 = **530**

13. (a) Angle a $\rightarrow$ 180 – 115 = 65
       Angle b = angle a = 65
       Angle x = 180 – 65 – 65 = **50°**
    (b) Angle C = Angle d = (180 – 80) ÷ 2 = 50
        Angle e = Angle f = 180 – 50 = 130
        Angle y = 360 – 130 – 130 = **100°**

14. 0900 → 1430
    (5h¹/₂h)
    0900 → 1200
    (3h)
    72 km/h x 3h = 216km
    0800 → 1200
    (4h)
    (a) 216 km ÷ 4h = **54km/h**
    (b) 5¹/₂h x 72 km/h = **396km**

15. (a) 1ˢᵗ 20u → $0.73 x 20 = $14.60
        Next 8u →$0.90 x 8 = $7.20
        $14.60 + $7.20 = **$21.80**
    (b) $14.60 (1ˢᵗ 20u) + ($0.90 x 20) + ($1.21 x 8) = **$42.28**
    (c) $26.30 - $14.60 = $11.70
        $11.70 ÷ $0.90 = 13u
        20u + 13u = **33u**

16. $4968 - $1512 = $3456
    $3456 ÷ 2 = $1728 (total $ of s)
    $1728 + $1512 = $3240
    4320 − 3240 = 1080
    1080 ÷ 12 = 90
    3240 ÷ 90 = **$36**

17. (a) 0.5 x 3.14 x 6 x 6 = 56.52
        0.5 x 3.14 x 4.5 x 4.5 = 31.7925
        Area of half main circle → 0.5 x 3.14 x 7.5 x 7.5 = 88.3125
        Area of triangle → 0.5 x 12 x 9 = 54
        Shaded part → 56.52 + 31.7925 + 54 = **88.3125cm**
    (b) L S-C curve → 18.84
        S S-C curve → 14.13
        Main S-C curve → 23.53
        Total part → 23.55 + 14.13 + 18.84 = **56.52 cm**

18. B : R
    3 : 4
    7u → 665
    1u → 95
    4u → 380 (R)
    3u → 285 (B)
    5r → 12p
    380r →912p
    r + p = 1292
    b + g = 1292 ÷ 4 = 323
    G → 38
    G : P
    38 : 912
    1 : 24