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

COMBINED PRELIMINARY EXAMINATION (2013)
PRIMARY 6

MATHEMATICS

PAPER 1
Booklet A

Friday 23 AUGUST 2013 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. You are not allowed to use a calculator.

Name : _____ ( )

Class : 6.( )

Parent's Signature:_____

This question paper consists of 8 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. What is 392 458 rounded off to the nearest hundred?

   1) 392 000
   2) 392 400
   3) 392 460
   4) 392 500

2. Which of these has the smallest value?

   1) $\frac{1}{5}$
   2) $\frac{2}{7}$
   3) 0.5
   4) 0.27

3. Which one of the following pairs of numbers has common factors 1, 3 and 9 only?

   1) 9 and 24
   2) 12 and 18
   3) 12 and 24
   4) 18 and 27

4. The average mass of 3 boys weighing 34 kg, 35 kg and x kg is 33 kg. What is the value of x?

1) 27
2) 30
3) 36
4) 34

5. Mrs Loh bought $9k$ pens. She gave 2 pens to each of her pupils and had $4k$ pens left. Express the number of pupils Mrs Loh had in terms of k.

1) $\frac{5k}{2}$
2) $\frac{13k}{2}$
3) $\frac{9k-2}{4k}$
4) $\frac{9k+2}{4k}$

6. $341.059 = 300 + 40 + \square + 0.05$

The missing value in the box is _____.

1) 0.09
2) 0.009
3) 1.009
4) 1.059

7. Derrick left for his tennis training and his watch showed 9.35 a.m. He took 35 minutes to travel to his tennis training venue. He then realised that his watch was 10 minutes slow. What was the actual time he reached the training venue?

1) 9.50 a.m.
2) 10.10 a.m.
3) 10.20 a.m.
4) 10.30 a.m.

8. The table below shows the age of 4 boys. Whose age is the nearest to their average age?

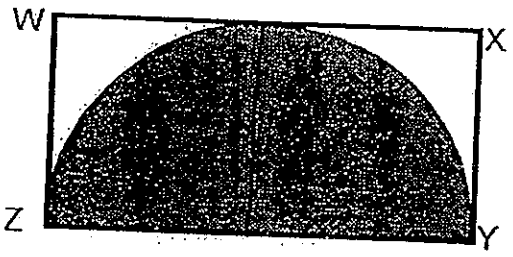
Name	Age in Years
Alvin	11
Bobby	12
Calvin	13
Danny	15

1) Alvin
2) Bobby
3) Calvin
4) Danny

9. The ratio of the number of marbles Frederick has to the number of marbles Gregory has is 5 : 8. If Frederick has 90 marbles, how many marbles must Gregory give to Frederick so that they both have the same number of marbles?

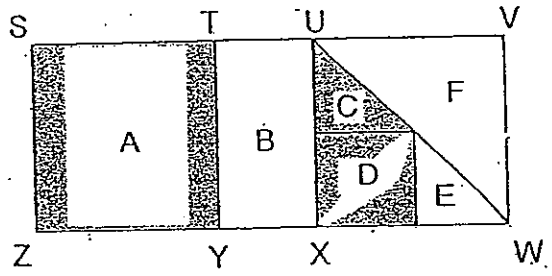
1) 18
2) 27
3) 90
4) 144

10. The area of rectangle WXYZ is 98 cm^2. Find the radius of the semi-circle. (Take $\pi = \frac{22}{7}$)



1) 7 cm
2) 14 cm
3) 22 cm
4) 44 cm

11. The figure below is made up of 2 identical squares STYZ and UVWX and a rectangle TUXY. Area A is twice the Area of B and Area D is half of Area F. What fraction of the figure is shaded?



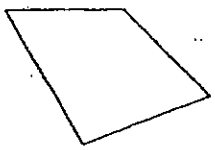
1) $\frac{3}{5}$

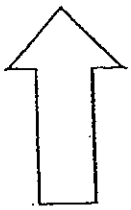
2) $\frac{3}{10}$

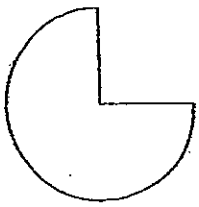
3) $\frac{9}{20}$

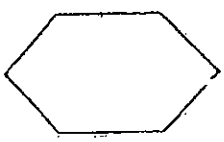
4) $\frac{11}{20}$

12. Which one of the following figures has more than one line of symmetry?

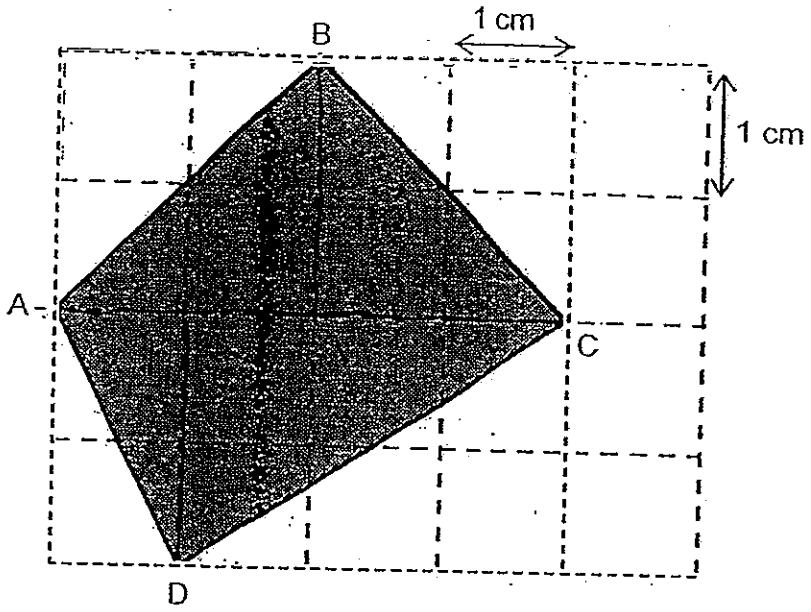
1) 

3) 

2) 

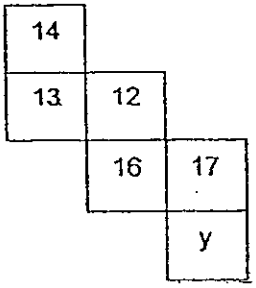
4) 

13. Quadrilateral ABCD is drawn on a 1-cm square grid. Find the area of ABCD.



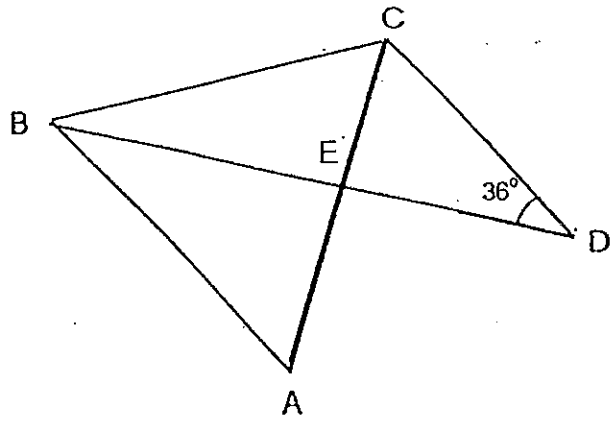
1) 6 cm^2
2) 8 cm^2
3) 12 cm^2
4) 20 cm^2

14. The figure below shows the net of a cube. The average of each pair of numbers on opposite faces is the same. What is the missing number represented by the face marked 'y'?



1) 11
2) 15
3) 18
4) 19

15. In the figure below, ABC is an equilateral triangle and CD and BD are straight lines. CD is parallel to AB. $\angle CDE$ is 36°. Find $\angle DEA$.



1) 36°
2) 84°
3) 96°
4) 144°

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

COMBINED PRELIMINARY EXAMINATION (2013)
PRIMARY 6

MATHEMATICS

PAPER 1
Booklet B

Friday 23 AUGUST 2013 50 min

INSTRUCTIONS TO PUPILS
1. Do not turn over this page until you are told to do so
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3. Answer all questions.
4. Write your answers in this booklet.
5. You are not allowed to use a calculator.

Name : _____ ( )

Class : 6.( )

Parent's Signature:_____

Booklet	Possible Marks	Marks Obtained
A	20	
B	20	
TOTAL	40	

This question paper consists of 8 printed pages. (Inclusive of cover page)

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

16. Express $2\frac{3}{7}$ as a decimal. (Round off your answer to 2 decimal places.)

Answer: _____

17. $8 \times 1\frac{1}{6} = 1\frac{1}{6} + 1\frac{1}{6} + 2\frac{1}{3} +$ ☐

What is the missing value in the box?

Answer: _____

18. What is the quotient when 2397 is divided by 23?

Answer: _____

19. Sheena is y years old. Mary is three times as old as Sheena and Mary is 4 years younger than Peiqi. What is Peiqi's age in terms of y?

Answer: _____

20. 1 kg of tomatoes costs $2.40.
6 kg of such tomatoes cost as much as 800g of cherries.
How much does 100 g of cherries cost?

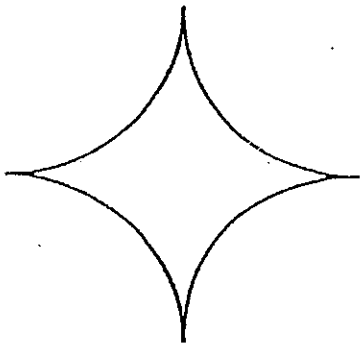
Answer: $_____

21. Helen had a roll of ribbon 3 m 4 cm long. She cut off 18.7 cm of the ribbon to tie a parcel. What was the length of the remaining ribbon? Leave your answer in centimetres.

Answer: _____cm

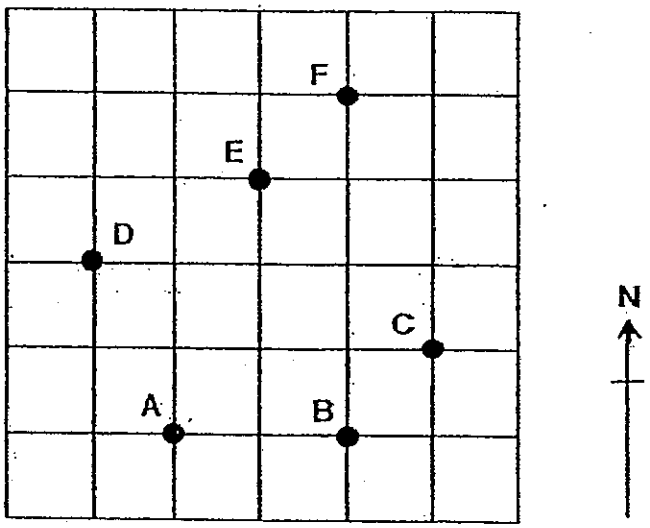
22. A circular hoopla hoop of radius 10 cm is cut into 4 equal pieces and re-arranged to make the shape as shown. What is the perimeter of the shape?

(Take $\pi = 3.14$.)



Answer: _____ cm

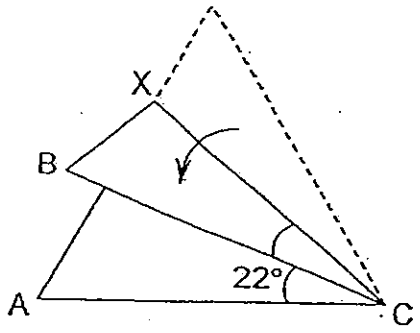
23.



Refer to the square grid above and fill in the blanks with A, B, C, D, E or F.

Point _____ is south-east of point _____

24. The figure below shows an equilateral triangular piece of paper folded along line CX. $\angle ACB$ is 22°. Find $\angle BCX$.



Answer: _____ °

25. Add one square to Figure Q so that the new Figure Q has the same area and perimeter as Figure P. Shade the square drawn.

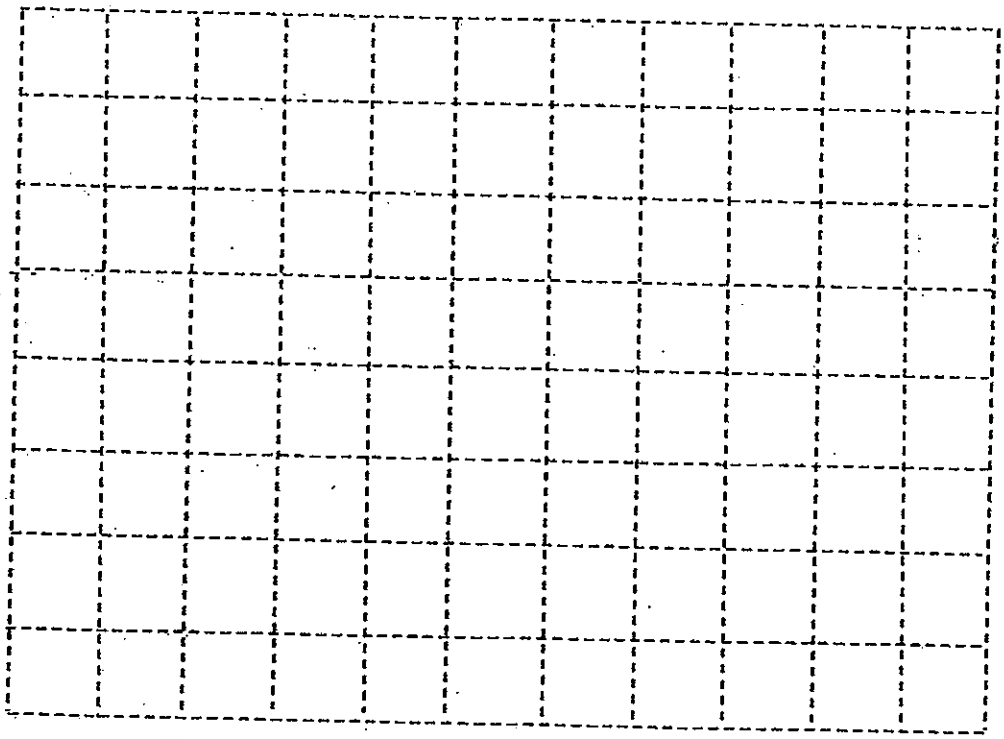


Figure P Figure Q

Questions 26 to 30 carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which requires units, give your answers in the units stated. (10 marks)

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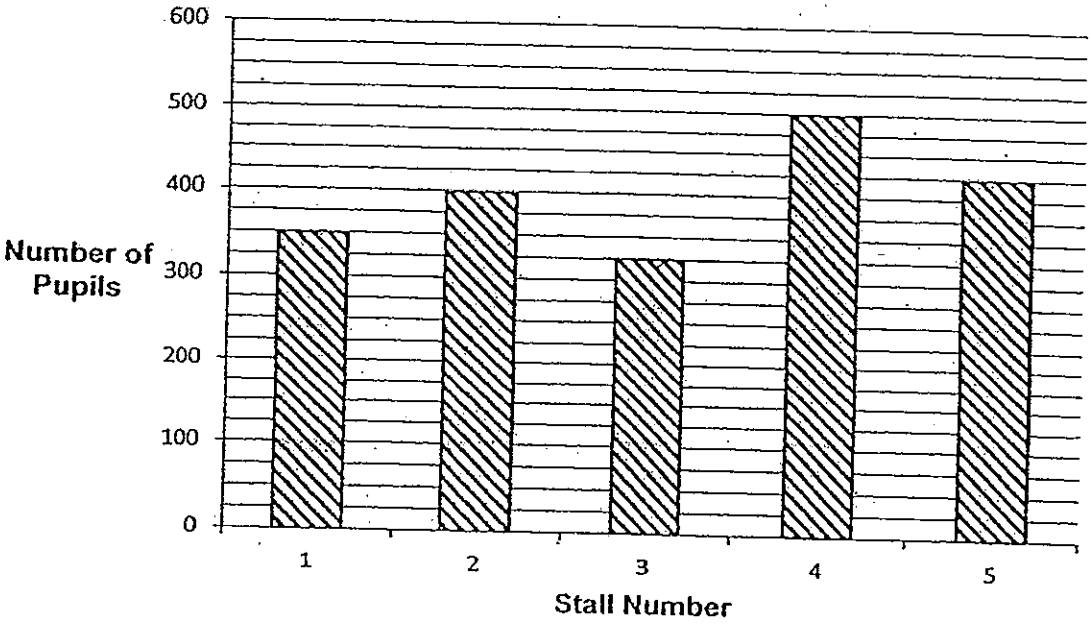
26. Kelvin bought 8 identical erasers and 5 identical files. Each eraser cost $\$p$. Each file cost \$1.30 more than an eraser. How much did he pay altogether?
Give your answer in terms of p.

Answer: \$_____

27. What is the greatest number of $\frac{1}{4}$ - m pieces of ribbon Jenny can cut from $\frac{9}{10}$ m of ribbon?

Answer: _____

28. The graph below shows the number of pupils who shopped at the 5 stalls in a certain school on Friday. Study the graph carefully and answer the questions.



a) How many more pupils preferred stall 5 to stall 3?

Answer: _____

b) What was the percentage of the pupils who shopped at stall 4?

Answer: _____ %

29. The bill for a meal in a restaurant was $53.50, inclusive of 7% Goods and Services Tax (GST). Find the price of the meal before GST.

Answer : $_____

30. Mavis wants to buy 9 bars of chocolate but she is short of $2.50. If she buys 2 bars of chocolate, she will have $5.20 left. How much does each bar of chocolate cost?

Answer: $ _____

End of Paper 1

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

COMBINED PRELIMINARY EXAMINATION (2013)
PRIMARY 6

MATHEMATICS

PAPER 2

Friday 23 AUGUST 2013 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. You are allowed to use a calculator.

Name : _____ ( )

Class : 6.( )

Parent's Signature: _____

Paper	Possible Marks	Marks Obtained
1	40	
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 to the units stated. (10 marks)

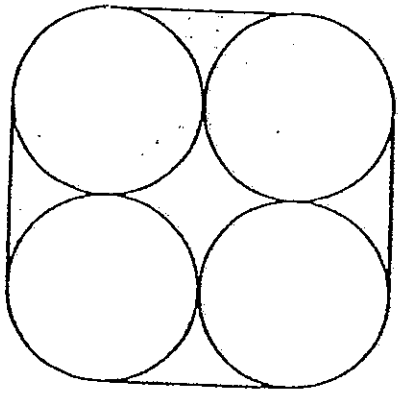
1. A rectangular tank measures 30 cm by 25 cm by 8 cm. Water from a tap flows into the rectangular tank at a rate of 180 cm^3 per minute. How long does it take to fill $\frac{3}{4}$ of the tank?

Answer: _____ min

2. Ethan scored an average of 75 marks for Mathematics and Science. He scored an average of 86 marks for Mathematics and English. How many more marks did he score in English than in Science?

Answer: _____

3. A rubber band is used to secure the position of four identical circular discs. The diameter of each circular disc is 10 cm. Use the calculator value of π to find the length of the rubber band, correct to 2 decimal places.

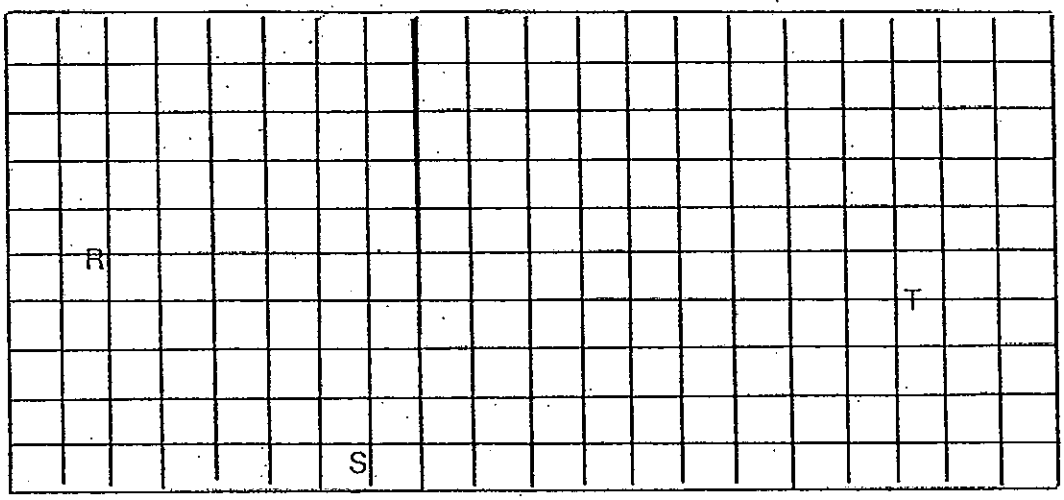


Answer: _____ cm

4. A group of people went on a trip to Malaysia. $\frac{1}{3}$ of the males and $\frac{1}{4}$ of the females were children. There were 32 children altogether and $\frac{3}{8}$ of them were girls. What fraction of the people were children? (Give your answer in its simplest form.)

Answer: _____

5. RS and ST are two sides of a parallelogram. Complete and label the parallelogram RSTU by drawing the other two sides in the square grid below.



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)

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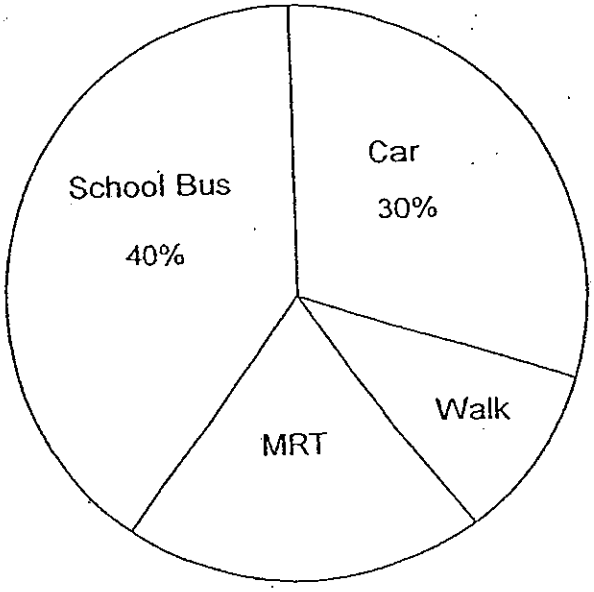
6. A box with 68 identical mugs weighs 18 kg. The same box when filled with 56 identical mugs weighs 15.03 kg. What is the mass of the empty box in kilogrammes?
(Round off your answer to the nearest 1 decimal place)

Answer: _____[3]

7. A sum of money was shared among Andy, Bobby and Carl such that Andy received $\frac{1}{4}$ of the sum and the remainder was shared between Bobby and Carl in the ratio 3 : 2. Find the ratio of the amount of money Andy had to the amount of money Bobby had to the amount of money Carl had.

Answer: _____[3]

8. The pie chart below shows how pupils of ABC school travel to school daily. Study the pie chart below carefully and answer the questions.



a) If 810 pupils go to school by car, what is the enrolment of ABC school?

b) If the number of pupils who travel to school by MRT is twice those who walk to school, how many pupils walk to school?

c) What fraction of the pupils in ABC school go to school by MRT?

Answer: (a) _____ [1]

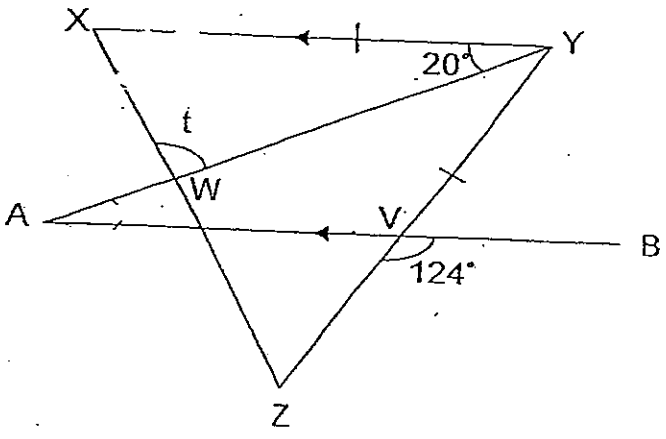
(b) _____ [1]

(c) _____ [1]

9. Mrs Lim sold her curry puffs at $1.40 each in the afternoon. At night, she still had 63 curry puffs left. She decided to reduce the cost of each curry puff by fifty cents. She managed to sell all the remaining curry puffs before she closed her shop. She collected a total of $409.50. How many curry puffs did she sell in the afternoon?

Answer: _____ [3]

10. In the figure below, XYZ is an isosceles triangle. XY = YZ and AB // XY. AWY and AVB are straight lines. Find $\angle t$.

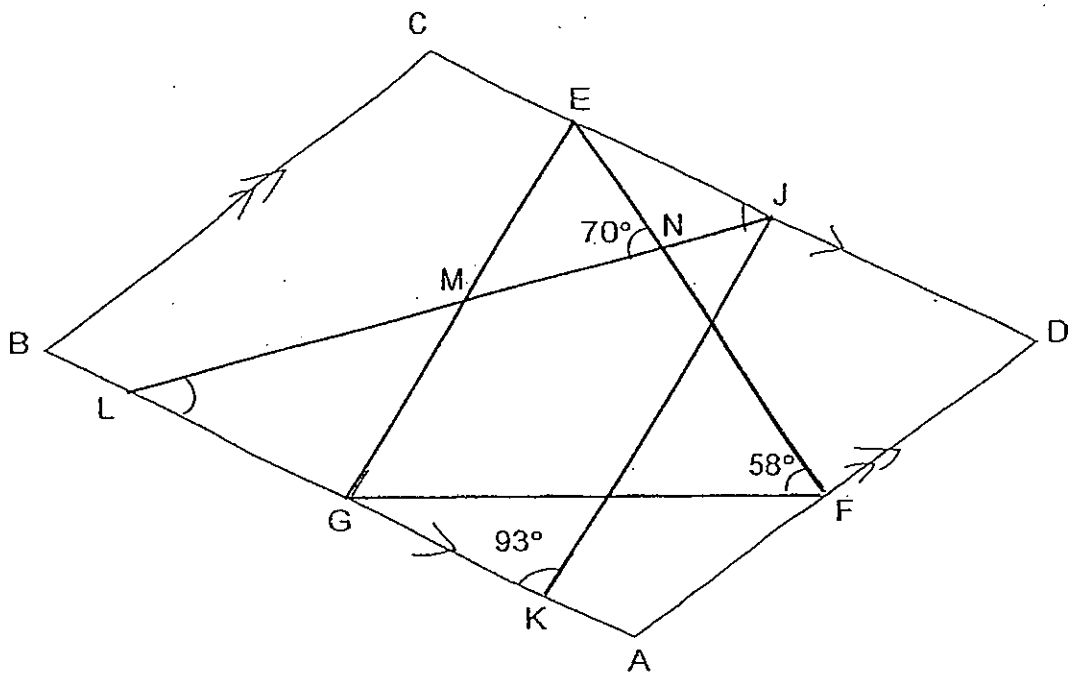


Answer: _____ [3]

11. The figure below is not drawn to scale. ABCD is a parallelogram. EFG and JKL are triangles. EG is parallel to JK and EF = FG. $\angle JKG = 93°$, $\angle ENL = 70°$ and $\angle EFG = 58°$

(a) Find $\angle EJK$.

(b) Find $\angle JLK$.



Answer: (a)_____ [1]

(b)_____ [3]

12. Aminah and Benjamin were travelling on the same route to Town X. Benjamin overtook Aminah when they were 168 km from Town X. When Benjamin reached Town X, Aminah was still 21 km away from Town X. 20 minutes later, Aminah reached Town X.

(a) What was the average speed of Aminah?

(b) What was the average speed of Benjamin?

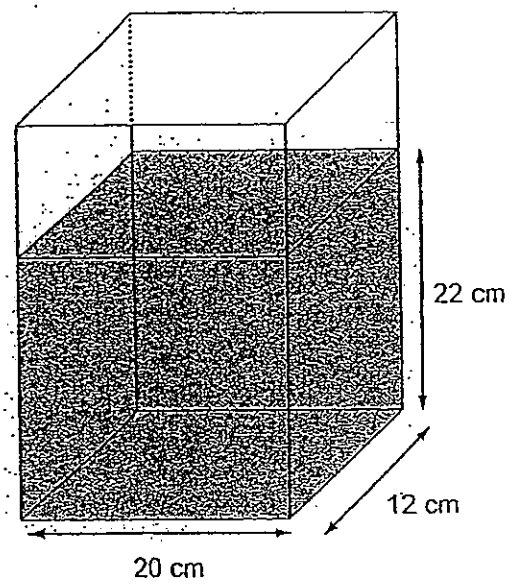
Answer: (a)_____ [1]

(b)_____ [3]

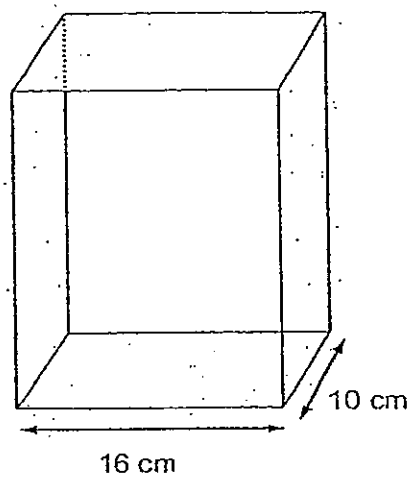
13. Tank A and Tank B are regular containers. Tank A was filled with water to a height of 22 cm.

a) What was the volume of water in Tank A at first?

b) The water in Tank A was poured into Tank B such that the height of Tank A was 3 times the height of Tank B. Find the volume of water ~~poured out of~~ Tank A B



Tank A



Tank B

Answer : (a)_____ [1]

(b)_____ [3]

14. The chairs in a school auditorium were previously arranged in rows such that there were exactly 15 chairs in each row for a concert. After the concert, the school attendants removed 6 chairs from the auditorium and rearranged the remaining chairs for a briefing. There are now exactly 12 chairs in each row and 9 more rows than before. How many chairs were there in the auditorium for the briefing?

Answer: _____ [4]

15. Lydia made some tarts to sell. $\frac{4}{5}$ of them were mango tarts and the rest were kiwi tarts. After selling 125 kiwi tarts and $\frac{5}{8}$ of the mango tarts, she had $\frac{1}{3}$ of the tarts left. How many tarts did she sell?

Answer: _____ [4]

16. Mr Wang had thrice as many ten-dollar notes as five-dollar notes at first. He used twice as many five-dollar notes as ten-dollar notes to pay for a mobile phone which cost $280. Then he realised that the number of five-dollar notes left was $\frac{1}{5}$ of the number of ten-dollar notes left.

(a) How many pieces of five-dollar notes did Mr Wang have at first?

(b) How much money had he left after buying the mobile phone?

Answer: (a)_____ [3]

(b)_____ [2]

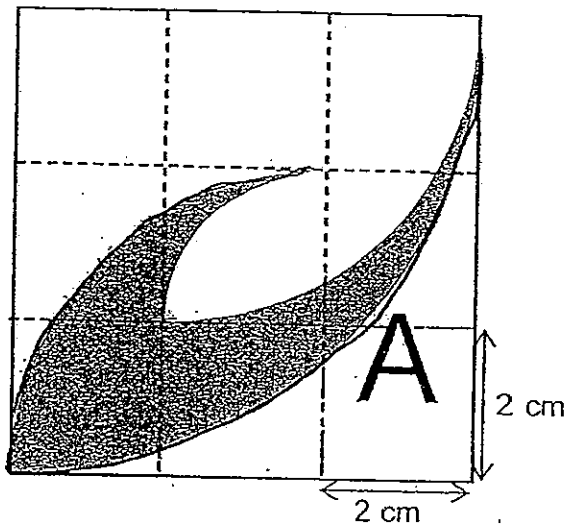
17. Jeremy had a total of 60 figurines of Smurf, Lego and Ironman. The ratio of the number of Smurf figurines to Lego figurines to Ironman figurines was 2 : 7 : 3. He bought another 36 figurines. As a result, the number of Smurf figurines was increased by 50% and the number of Lego figurines was increased by 20%.
Find the percentage increase in the number of Ironman figurines.

Answer: _____ [5]

18 The figure below is created with 4 quarter circles and a square.

(a) The unshaded part marked A is enclosed by the square and a quarter circle. Find the area of A.

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



Answer: A: _____ [1]

B: _____ [4]

End of Paper 2

Anglo-Chinese School
Combined Preliminary Examination 2013
Primary Six Mathematics
Booklet A

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

16) 2.43 17) 4⅔ 18) 104 19) (3y + 4) 20) 1.80

21) 285.3 22) 62.8 23) C, E 24) 19 25)

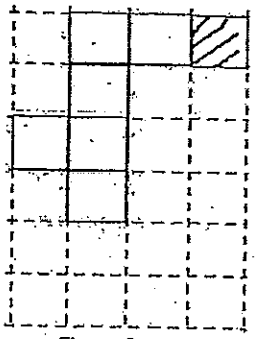


Figure Q

26) 8 + 5 = 13
13 x $p = $13p
$1.30 x 5 = $6.50
$13p + $6.50 = **$(13p + 6.50)**

27) ¼m = 25cm
$^{9}/_{10}$ m = 90cm
90cm ÷ 25cm = **3**

28a) 425 - 325 = **100**
28b) 350 + 400 + 325 + 500 + 425 = 2000
500 ÷ 2000 = **25%**

29) $53.50 ÷ 1.07 = **$50**

30) $5.20 + $2.50 = 9c - 2c
7c = $7.70
1c = **$1.10**

Booklet B

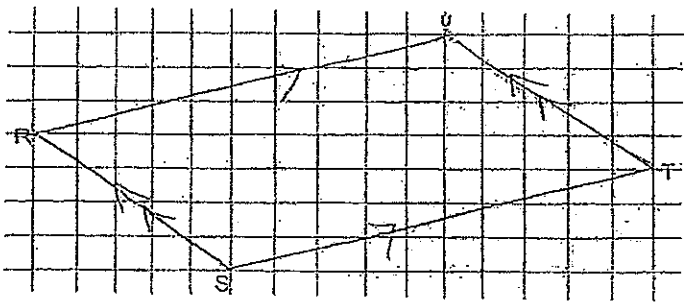
1) 30 x 25 x 8 x ¾ = 4500cm³
4500cm³ ÷ 180cm³ = **25**

2) 75 x 2 = 150
86 x 2 = 172
172 - 150 = **22**

3) 20cm x π = 20π cm
20π cm + 80cm = (20π + 80) cm
(20π + 80)cm ÷ 2 = (10π + 40)cm
(10π + 40) cm ≈ **71.42**

4) 32 x ⅜ = 12
32 - 12 = 20
20 x 3 = 60
12 x 4 = 48
48 + 60 = 108
$^{32}/_{108}$ = $^{8}/_{27}$

5)



6) 18kg - 15.03kg = 2.97kg
68 - 56 = 12
2.97kg ÷ 12 = 0.2475kg
0.2475kg x 68 = 16.83kg
18kg - 16.83kg = **1.17kg**

7) A : B + C : T
1 : 3 : 4
5 : 15 : 20

B : C : T
3 : 2 : 5 x3
9 : 6 : 15

Ratio = **5 : 9 : 6**

8) 810 ÷ 30 = 27
a) 27 x 100 = **2700**
100 - 30 - 40 = 30%
b) 810 ÷ 3 = **270**
c) Walk = MRT (20%) ÷ 2 = 10%
10% = **⅕**

9) $1.40 - $0.50 = $0.90
$0.90 x 63 = $56.70
$409.50 - $56.70 = $352.80
$352.80 ÷ $1.40 = **252**

10) ∠AYZ = 180° - 20° - 124° = 36°
∠YXZ + ∠XYZ = 180° - 20° - 36° = 124°
∠YXZ = 124° ÷ 2 = 62°
∠t = 180° - 62° - 20° = **98°**

11) ∠EJK + ∠JKG = 360° - 180° = 180°
a) ∠EJK = 180° - 93° = **87°**
∠EMN = 180° - 61° - 70° = 49°
180° - 58° = 122°
122° ÷ 2 = 61°
∠FGA = 180° - 93° - 61° = 26°
∠MGL = 18 2743
b) ∠JLK = 180° - 49° - 93° = **38°**

12) 21km ÷ 20min = 1.05km
a) 1.05km x 60mins = **63km/h**
168km ÷ 63km/h = 2hr 40mins
2hr 40mins - 20mins = 2hr 20mins
b) 168km ÷ 2hr 20mins = **72km/h**

13a) 22cm x 12cm x 20cm = **5280cm³**
20cm x 12cm x 3cm = 720cm³
16cm x 10cm x 1cm = 160cm³
720cm² + 160cm³ = 880cm³
5280cm³ ÷ 880cm³ = 6
b) 6 x 160cm³ = **960cm³**

14) 15 - 12 = 3
12 x 9 = 108
108 + 6 = 114
114 ÷ 3 = 38
38 x 15 = 570
570 - 6 = **564**

15) ⅘ x ⅝ = ½
1 - ⅓ = ⅔
⅔ - ½ = ⅙
125 x 6 = 750
750 x ⅔ = **500**

16) $5 x 2 = $10
$10 + $10 = $20
$280 ÷ $20 = 14
14 x 2 = 28
3u - 14 = 5p
1u - 28 = 1p (x3)
3u - 84 = 3p
5p - 3p = 2p
84 - 14 = 70
70 ÷ 2p = 35

a) 35 + 28 = <u>63</u>
63 x 3 = 189
189 x $10 = $1890
63 x $5 = $315
$1890 + $315 = $2205

b) $2205 - $280 = <u>$1925</u>

17) 2 + 7 + 3 = 12
60 ÷ 12 = 5
5 x 2 = 10
10 x ½ = 5
7 x 5 = 35
35 x ⅕ 7
5 + 7 = 12
36 - 12 = 24
3 x 5 = 15
$^{24}/_{15}$ x 100 = <u>160%</u>

18) 6cm x 6cm x ¼ x 3.14 = 28.26cm²
6cm x 6cm = 36cm²

a) 36cm² - 28.26cm² = <u>7.74cm²</u>
4cm x 4cm x 3.14 x ¼ = 12.56cm²
4cm x 4cm = 16cm²
16cm² - 12.56cm² = 3.44cm²
2cm x 4cm = 8cm²
36cm² - 3.44cm² - 8cm² = 24.56cm²
24.56cm² - 7.74cm² = 16.82cm²
2cm x 2cm = 4cm²
12.56cm² - 4cm² = 8.56cm²
2cm x 2cm x 3.14 x ¼ = 3.14cm²
12.82cm² - 3.14cm² - 8.56cm² = 5.12cm²

b) 5.12cm² + 4cm² = <u>9.12cm²</u>