Anglo-Chinese School (Junior)

SEMESTRAL ASSESSMENT 1 (2017)

PRIMARY 6

MATHEMATICS

PAPER 1

Booklet A

Monday 15 May 2017 50 min

Name: _____ ( ) Class: 6.( )

INSTRUCTIONS TO PUPILS

1 Do not turn over the pages 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 You are not allowed to use a calculator for this paper.

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his 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 oval (1, 2, 3 or 4) on the Optical Answer sheet.

(20 marks)

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1. In 98 403, what does the digit 8 stand for?

   (1) 8000 tens

   (2) 800 tens

   (3) 80 tens

   (4) 8 tens

2. 325.048 = 300 + 20 + ☐ + 0.008

   The missing value in the box is _____.

   (1) 0.4

   (2) 0.04

   (3) 5.04

   (4) 5.048

3. Express 24 days as a fraction of 6 weeks.

   (1) $\frac{1}{2}$

   (2) $\frac{1}{4}$

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

   (4) $\frac{4}{7}$

4. A bag containing 8 apples weighs 936 g. The mass of the empty bag is 16 g. What is the average mass of 1 apple?

(1) 115 g

(2) 116 g

(3) 117 g

(4) 119 g

5. Fandi is 120 cm tall. Ahmad is 132 cm tall. What is the ratio of Fandi's height to Ahmad's height?

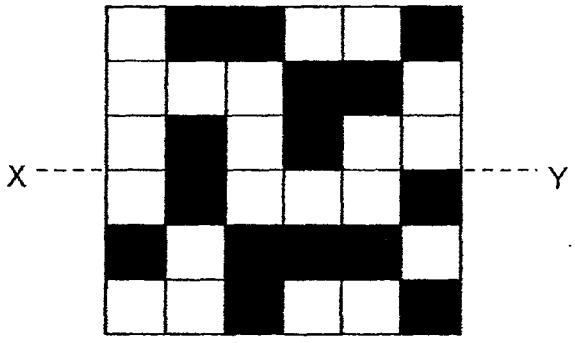
(1) 5 : 6

(2) 5 : 11

(3) 10 : 11

(4) 10 : 21

6. The figure below shows 15 shaded squares. How many more squares must be shaded so that the line XY becomes a line of symmetry?



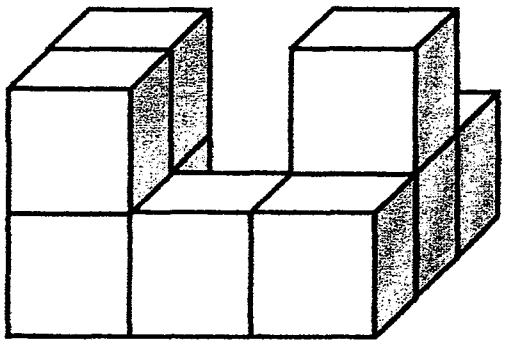
(1) 5

(2) 6

(3) 3

(4) 4

7. The solid below is made up of units of  . How many of such units make up the solid below?



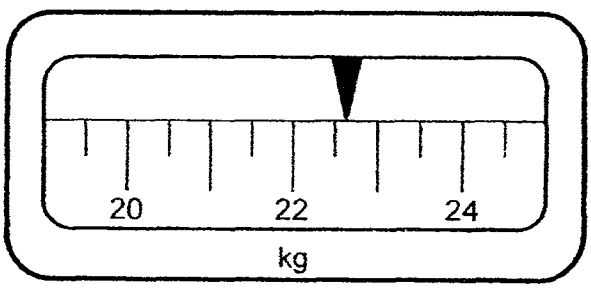
(1) 7

(2) 8

(3) 9

(4) 10

8. Which one of the following is closest to the reading shown on the weighing scale below?



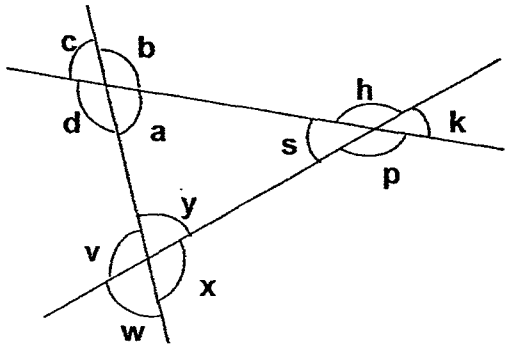
(1) 22.1 kg

(2) 22.4 kg

(3) 22.6 kg

(4) 23.1 kg

9. Study the figure below carefully.



Which of the following is true?

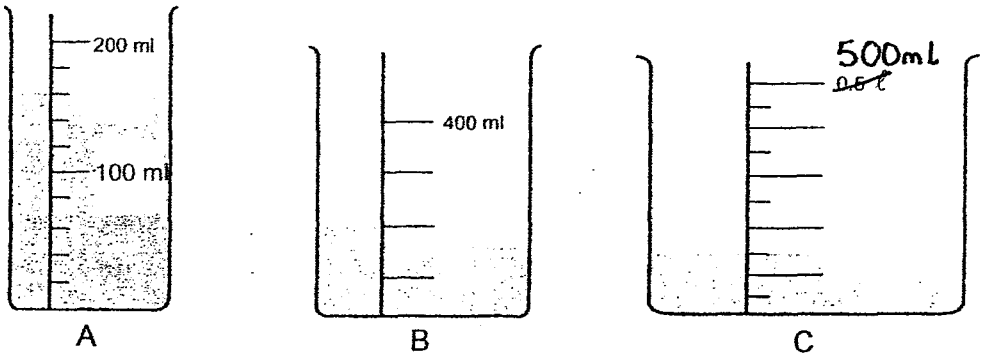
(1) $\angle a + \angle p + \angle x = 180^o$

(2) $\angle a + \angle s + \angle v = 180^o$

(3) $\angle c + \angle h + \angle y = 180^o$

(4) $\angle c + \angle k + \angle w = 180^o$

10. Three containers, A, ~~B~~ B and C with some water are shown below. Which container has the least amount of water and which container has the most?



	Least	Most
(1)	A	C
(2)	B	C
(3)	B	A
(4)	C	B

11. The table below shows the number of books read by each pupil in a class.

Number of pupils	Number of books read by each pupil
3	0
10	2
?	3
7	6

Given that the pupils read 116 books in total, how many pupils read only 3 books?

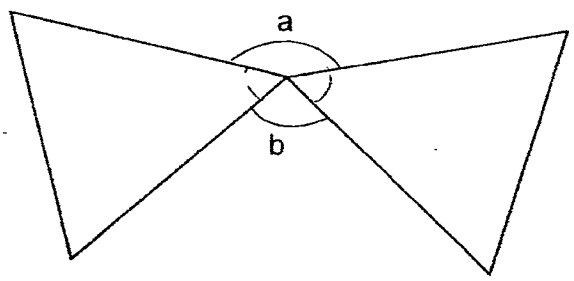
(1) 15

(2) 16

(3) 17

(4) 18

12. The two triangles in the figure are equilateral triangles.
Find the sum of ∠a and ∠b.



(1) 120°

(2) 180°

(3) 240°

(4) 300°

13. A box of candy has a mass of q kg. When empty, the box has a mass of 250 g. What is the mass of the candies in 4 such boxes?

(1) (q - 1) kg

(2) (4q - 250) kg

(3) (1000 q - 1000) kg

(4) (4 q - 1) kg

14. John is $\frac{3}{5}$ as heavy as Fred and Fred is $\frac{3}{4}$ as heavy as Ken. What is the ratio of John's mass to ~~Ford's~~ Fred's mass to Ken's mass?

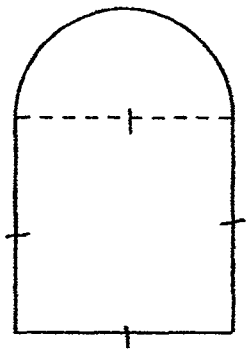
(1) 3 : 5 : 4

(2) 3 : 5 : 20

(3) 9 : 5 : 4

(4) 9 : 15 : 20

15. The figure is made up of a square of perimeter 28 cm and a semicircle. Find the perimeter of the figure. (Take $\pi = \frac{22}{7}$)



(1) 32 cm

(2) 39 cm

(3) 43 cm

(4) 50 cm

(Go on to Booklet B)

SEMESTRAL ASSESSMENT 1 (2017)

PRIMARY 6

MATHEMATICS

PAPER 1

Booklet B

Monday **15 May 2017** **50 min**

Name: _____ ( ) Class: 6.( )

INSTRUCTIONS TO PUPILS

1 Do not turn over the pages until you are told to do so.

2 Follow all instructions carefully.

3 Answer ALL questions.

4 You are **not** allowed to use a calculator for this paper.

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. For questions which require units, give your answers in the units stated. (10 marks)

16. What is the value of $98 \div (32 - 18) + 8 \times 6 - 9$?

Ans: _____

17. Find the difference between 35 tens and 26'tenths.

Ans: _____

18. Find the value of $\frac{12m - 11}{5}$ when m = 3.

Ans: _____

Sub-Total: [ ]

19. Find the value of $\frac{9}{10} \div \frac{2}{5}$.
Give your answer as a mixed number.

Ans: _____

20. Express $1\frac{3}{4}$ as a percentage.

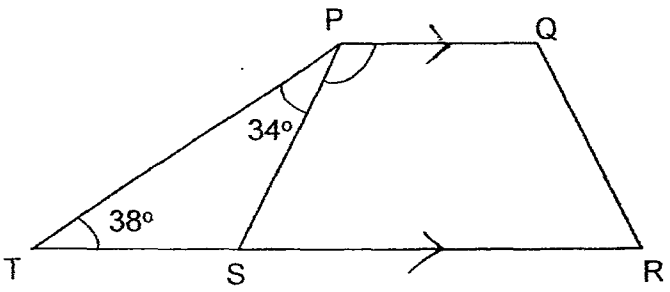
Ans: _____ %

21. The average of five numbers, **6**, **9**, **18**, **25** and **32**, is 18. Which number should be removed so that the average of the remaining numbers is increased by 3?

Ans: _____

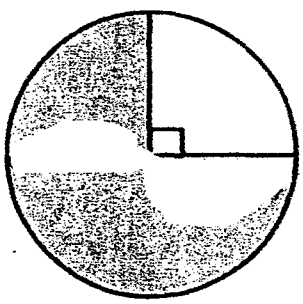
Sub-Total: _____

22. In the figure below, TR is a straight line and PQ is parallel to TR. Find $\angle SPQ$.



Ans: _____ °

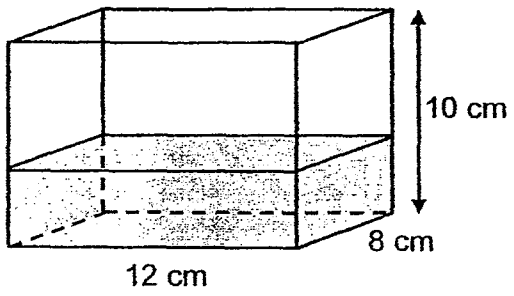
23. The figure shows a circle with a diameter of 20 cm. Find the area of the shaded part. Leave your answer in terms of π.



Ans: _____ cm^2

Sub-Total: _____

24. A rectangular tank measures 12 cm by 8 cm by 10 cm. It is $\frac{2}{5}$ filled with water. Find the volume of water in the tank in millilitres.



Ans: _____ ml

25. Mr Tan drove from Town A at 8.35 p.m. and reached Town B at 6.20 a.m. the next day. How long did the journey take? Give your answer in hours and minutes.

Ans: _____h _____ min

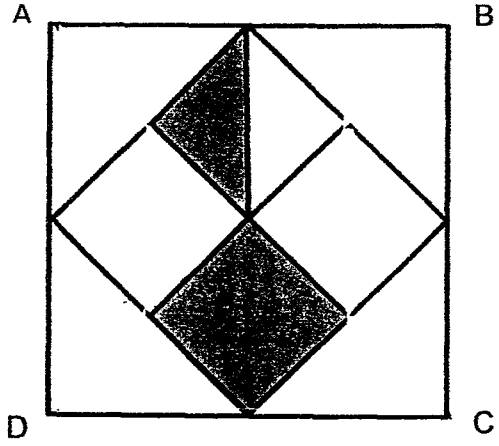
Sub-Total:

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

26. James bought some marbles. He gave away 23 of them. His father gave him the same number of marbles as the number of marbles he had left. He packed all the marbles equally into 9 bags. Each bag contained 16 marbles. How many marbles did he buy?

Ans: _____

27. A square ABCD is made up of 3 small squares, 2 small triangles and 4 large triangles. What is the ratio of the shaded part of the square to the unshaded part of the square?



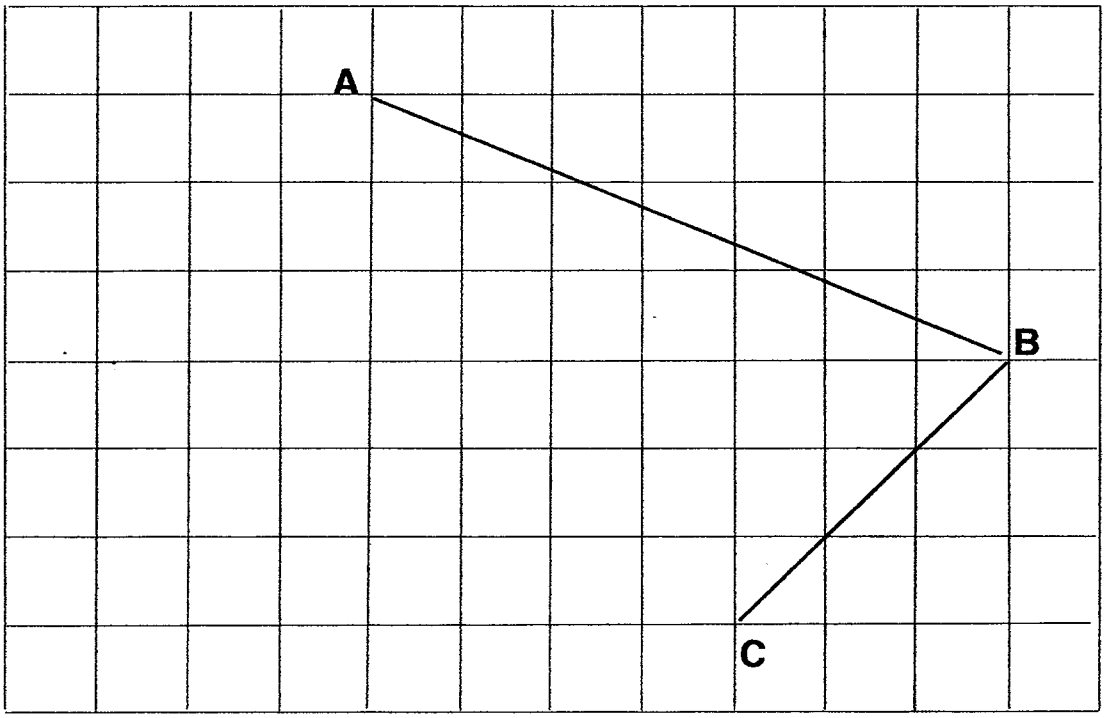
Ans: _____

Sub-Total:

28. In the square grid below, AB and BC are straight lines.

(a) Measure and write down the size of $\angle \overline{ABC}$.

(b) AB and BC are two sides of a parallelogram. Complete the parallelogram by drawing the other two sides in the square grid below.



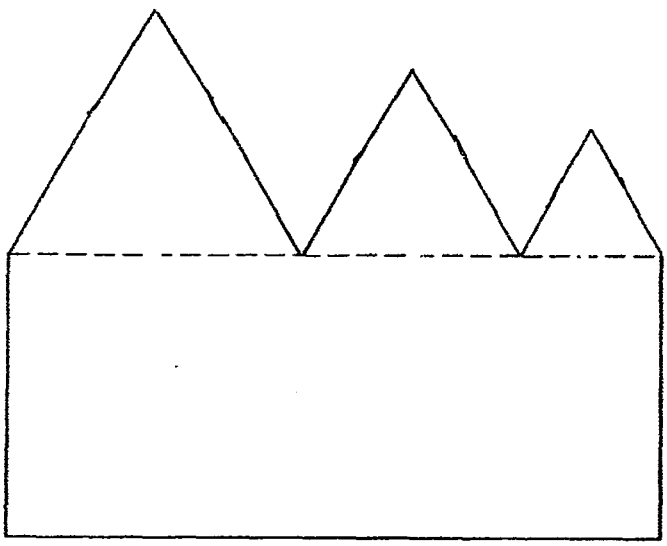
Ans: (a) _____°

Sub-Total:

29. At a pet shop, 70% of the fishes in a tank were guppies and the rest were angelfish. 20 guppies were sold. 60% of the fishes left in the tank are guppies. How many guppies were there at first?

Ans: _____

30. The figure shown below is made up of a rectangle 10 cm by 8 cm and 3 equilateral triangles. Find the perimeter of the figure.



Ans: _____ cm

~ End of Paper ~

Sub-Total: ☐

SEMESTRAL ASSESSMENT 1 (2017)

PRIMARY 6

MATHEMATICS

PAPER 2

Monday **15 May 2017** **1 h 40 min**

Name: ( ) Class: 6.( )

INSTRUCTIONS TO PUPILS

1 Do not turn over the pages until you are told to do so.

2 Follow all instructions carefully.

3 Answer ALL questions.

4 You can use a calculator for this paper.

Paper	Booklet	Possible Marks	Marks Obtained
1	A	20	
	B	20	
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 in the space provided for each question and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

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1. Brian had 72 stamps more than Eric. Alex had half of what Brian and Eric had altogether. Given that the three boys had 630 stamps, how many stamps did Alex have?

Ans: _____

2. At SuperSub Sandwich, $\frac{2}{5}$ of the sandwiches were Tuna, $\frac{1}{4}$ of the sandwiches were Egg and the rest were Chicken. What is the ratio of chicken sandwiches to tuna sandwiches?

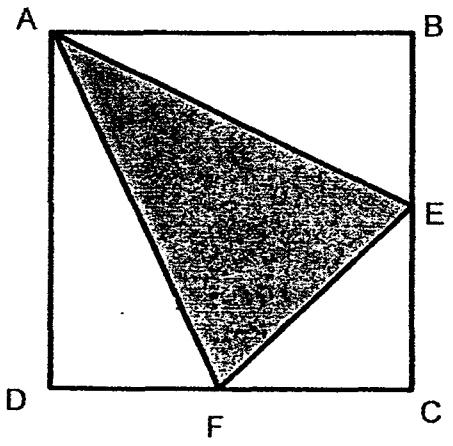
Ans: _____

Sub-Total: [ ]

3. Mr Fu brought his two children to an amusement theme park. He paid $140 for the admission tickets altogether. Given that the price of a child ticket is $\frac{3}{4}$ of the price of an adult ticket, what is the cost of an adult ticket?

Ans: $ _____

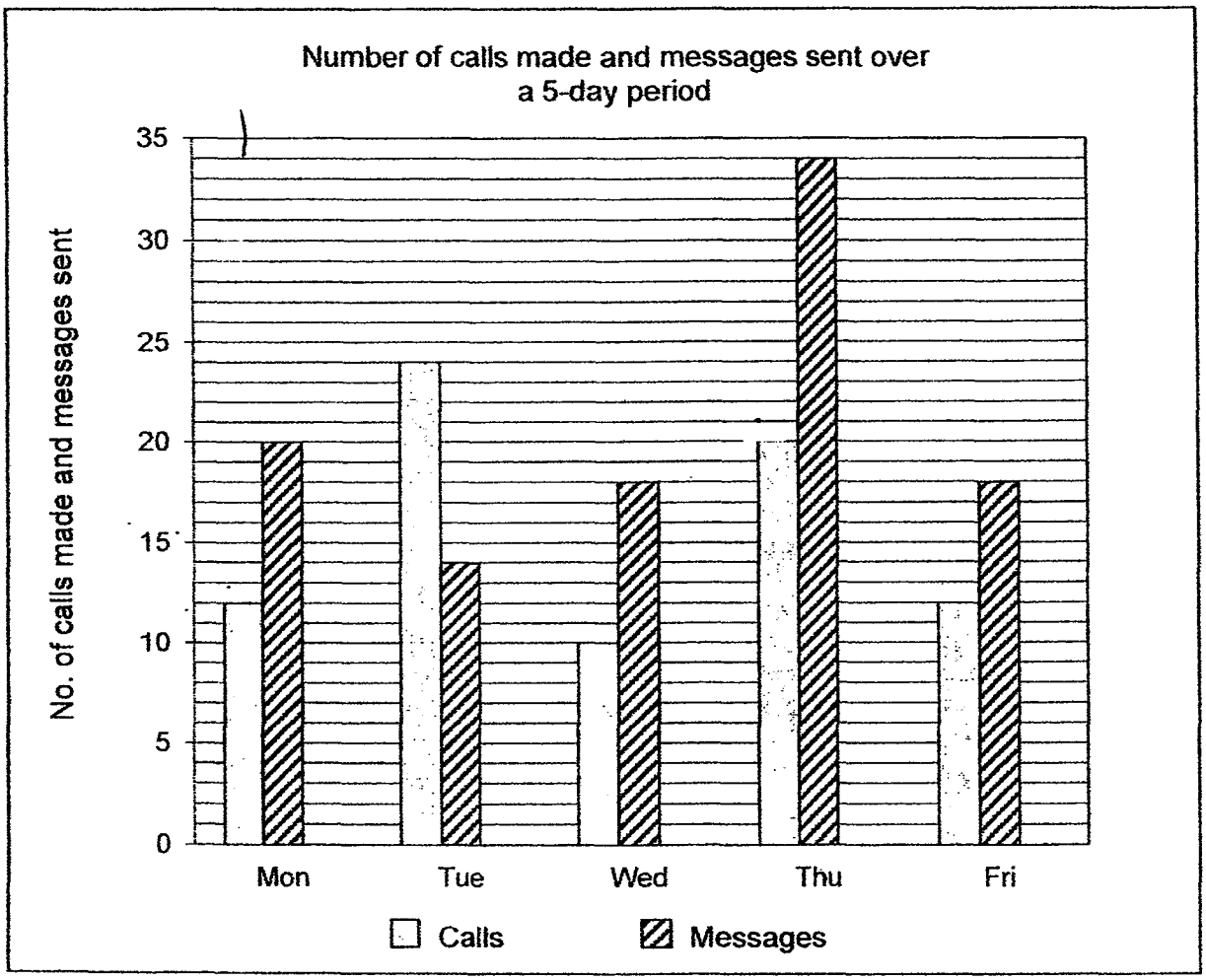
4. ABCD is a square of area 72cm^2. E is the midpoint of BC and F is the midpoint of DC. Find the area of the shaded triangle.



Ans: _____cm^2

Sub-Total:

5. The graph below shows the number of messages sent and calls made by Daniel through his mobile phone over a 5-day period. Study the graph carefully and answer the questions.



(a) On which 2 days did Daniel send the same number of messages?

Ans: _____ and _____

(b) Find the total number of calls Daniel made over the 5-day period.

Ans: _____

Sub-Total: ☐

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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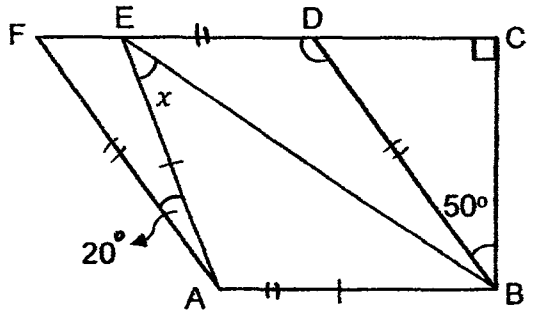
6. In the figure, FC is a straight line, AE = AB and ABDF is a parallelogram. ∠BCD is a right angle, ∠CBD = 50° and ~~∠AEF = 120°~~ ∠ L FAE= 20° Find $\angle x$.



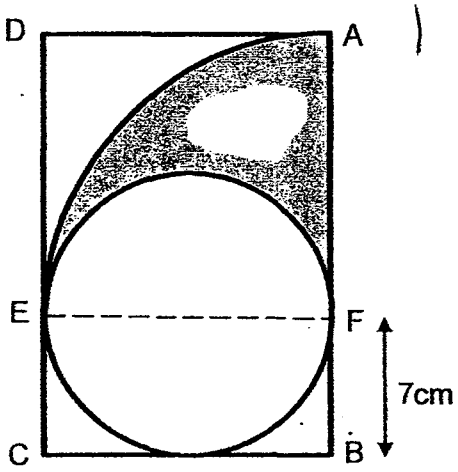
Ans: _____ [3]

7. Hannah put 78 paper clips in Box A, 56 paper clips in Box B and 182 paper clips in Box C. Hannah then added an equal number of paper clips into each of the boxes. As a result, Box C contained the same number of paper clips as the total number of paper clips in Boxes A and B. How many paper clips were there in all three boxes at the end?

Ans: _____ [3]

Sub-Total:

8. The shaded part in the figure is made up of a quadrant and a semicircle which are drawn within the rectangle ABCD. FB = 7cm. What fraction of rectangle ABCD is shaded? (Take $\pi = \frac{22}{7}$)



Ans: _____ [3]

Sub-Total:

9. At a bakery, Lisa bought 8 fruit tarts. Mandy bought 6 fruit tarts and 3 chicken pies at $2 each. Altogether, she spent $3.20 less than Lisa. What was the amount of money Mandy spent?

Ans: _____ [3]

10. The average marks for Mathematics of a group of pupils was 82. When a pupil with 94 marks left the group, the average marks for the remaining pupils was 80. How many pupils were in the group at first?

Ans: _____ [3]

Sub-Total: [ ]

11. Janice spent $\frac{5}{9}$ of her money on a bag and 7 pairs of earrings. The cost of each pair of earrings is $\frac{1}{8}$ of her remaining money. The total cost of 7 pairs of earrings is $128 more than the cost of the bag.

(a) What fraction of her money was spent on 7 pairs of earrings?

(b) How much did she have at first?

Ans: (a) _____ [1]

(b) _____ [3]

Sub-Total:

12. In a bookshop, 4 storybooks and 4 boxes of pencils cost as much as 3 storybooks and 8 boxes of pencils. Each storybook cost $18 more than a box of pencils.

(a) What is the cost of a storybook?

(b) What is the total cost of the 4 storybooks and 4 boxes of pencils?

Ans: (a)_____ [2]

(b) _____ [2]

Sub-Total:

13. Devi prepares chocolates for the guests who are attending her party. The ratio of the number of adults to the number of children is 3 : 4. Of the children, $\frac{1}{5}$ are boys and the rest are girls. She prepared a total of 500 chocolates so that each adult gets 3 chocolates and each child gets 4 chocolates.

(a) What fraction of Devi's guests are girls?

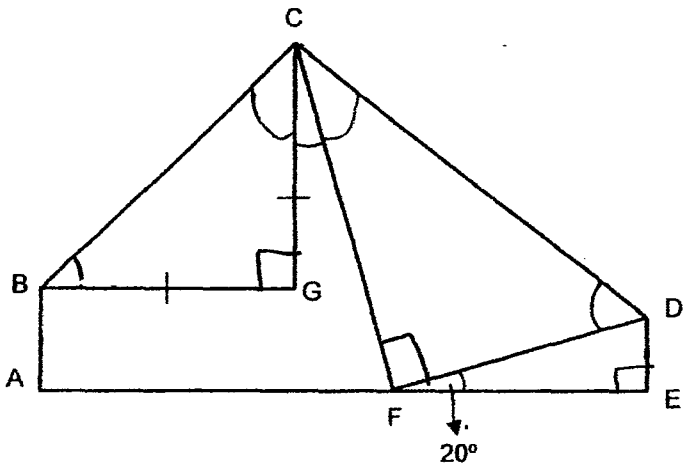
(b) How many adults are attending Devi's party?

Ans: (a) _____ [1]

(b) _____ [3]

Sub-Total:

14. The figure below, not drawn to scale, is formed by folding a rectangular piece of paper at two of its corners, F and G. CG = BG and ∠DFE = 20°.



(a) Find ∠CDF.

(b) Find ∠GCF.

Ans: (a)_____ [2]

(b) _____ [2]

Sub-Total:

15. Kai Kai and Jia Jia started on a 50-km cycling trip at the same time. They cycled at the same speed for the first 10 km. For the remaining 40 km, Kai Kai cycled at a greater speed. He arrived at the finishing point 40 minutes before Jia Jia who was 10 km behind him. Jia Jia did not change her speed throughout her trip and she completed it at 11 30.

(a) At what time did the journey start?

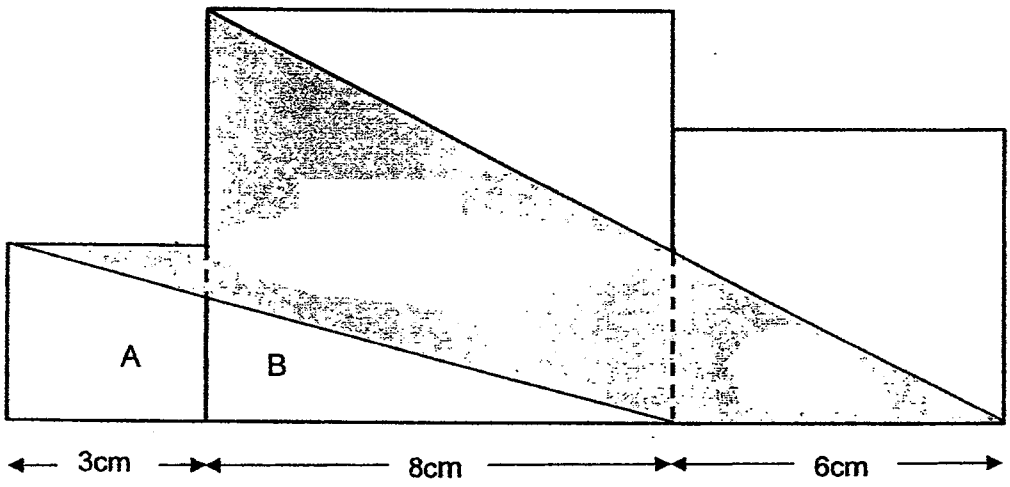
(b) What was Kai Kai's average speed for the remaining 40 km of the trip in m/min?

Ans : (a) _____ [2]

(b) _____ [2]

Sub-Total:

16. The figure shows 3 squares of side 3 cm, 8 cm and 6 cm.



(a) Find the total area of A and B.

(b) Find the area of the shaded part.

Ans: (a) _____ [1]

(b) _____ [4]

Sub-Total:

17. During the Great Singapore Sale, the discount given by Shop A and Shop B are shown below.

Shop A	Shop B
Discount of $6 for every $30 spent	20% off Store-wide

(a) Mrs Wong wants to buy a bag. The price of the bag before discount in both shops is $280. Which Shop should Mrs Wong buy from in order to save more money?

Mr Lim bought a pair of shoes and a shirt from shop A and paid $168.

(b) What was the total cost of the pair of shoes and the shirt before discount?

(c) The price of the same shirt after discount at Shop B is $38.40. Given that the price of the shirt before discount is the same in both shops, what is the percentage discount given to the shirt at Shop A?

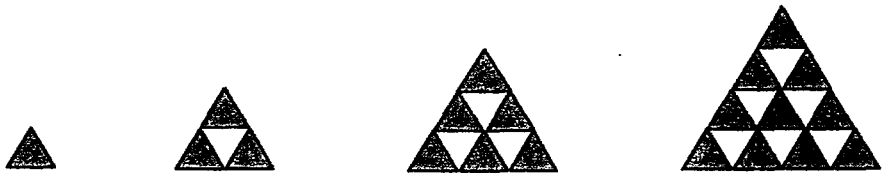
Ans: (a) _____ [1]

(b) _____ [2]

(c) _____ [2]

Sub-Total:

18. Paul used black and white triangles to form some patterns. The first four patterns are shown below.



Pattern 1 Pattern 2 Pattern 3 Pattern 4

(a) Complete the table below.

Pattern Number	Number of **shaded** triangles	Total number of triangles
1	1	1
2	3	4
3	6	9
4	10	16
5		

[1]

b) Find the total number of **shaded** triangles for Pattern 28.

c) Find the total number of **unshaded** triangles for Pattern 28.

Ans : (b) _____ [2]

(c) _____ [2]

~ End of Paper ~

Sub-Total:

ANSWER KEY

YEAR : 2017
LEVEL : PRIMARY 6
SCHOOL : : ANGLO-CHINESE SCHOOL (JUNIOR)
SUBJECT : : MATHEMATICS
TERM : SA1

Paper 1

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

Q16 46

Q17 347.4

Q18 5

Q19 $2\frac{1}{4}$

Q20 175%

Q21 6

Q22 108°

Q23 (75π) cm^2

Q24 384 ml

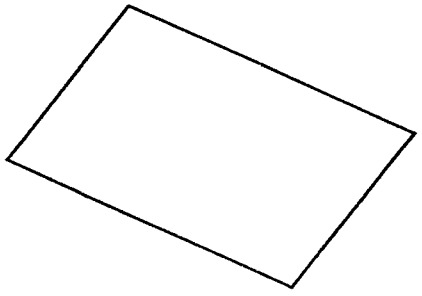
Q25 12 h 45 min

Q26 1 bag → 16
9 bags → 144
144 ÷ 2 = 72
At first → 72 + 23 ⇒ 95

Q27 3 : 13

Q28 (a) 67°

(b)



Q29 7u x 4 → 28u
6u x 3 → 18u
10u → 20
28u ⇒ 56 guppies

Q30 10 x 2 → 20
20 + 10 + 8 + 8 ⇒ 46 cm

Paper 2

Q1 630 – 72 – 36 → 522
522 ÷ 3 → 174
174 + 36 ⇒ 210 stamps

Q2 7 : 8

Q3 $56

Q4 27 cm^2

Q5 (a) Wednesday and Friday

(b) 12 + 24 + 10 + 20 +12 ⇒ 78

Q6 ∠BDE → 50° + 90° = 140°
∠EAB → 140° - 20° = 120°
∠x → (180° - 120°) ÷ 2 ⇒ 30°

Q7 $182 - 56 - 78 \rightarrow 48$
$(182 + 48) \times 2 \Rightarrow$ <u>460 paper clips</u>

Q8 $\frac{1}{2} \times \frac{22}{7} \times 7 \times 7 = 77$

$\frac{1}{4} \times \frac{22}{7} \times 14 \times 14 = 154$

$154 - 77 = 77$
$7 \times 14 = 98$
$(14 \times 14) + 98 = 294$

$\frac{77}{294} \Rightarrow \mathbf{\frac{11}{42}}$

Q9 $1\ CP \rightarrow 2$
$3\ CP \rightarrow 6$
$8\ FT + 3.2 \rightarrow 6\ FT + 6$
$8\ FT - 6\ FT \rightarrow 3.2 + 6$
$2\ FT \rightarrow 9.2$
$1\ FT \rightarrow 4.6$
$6\ FT \rightarrow 4.6 \times 6 = 27.6$
$27.6 + 6 \Rightarrow$ <u>$33.60</u>

Q10 $82 - 80 \rightarrow 2$
$94 - 80 \rightarrow 14$
$14 \div 2 \Rightarrow$ <u>7 pupils</u>

Q11 (a) $\frac{1}{8} \times \frac{4}{9} \rightarrow \frac{1}{18}$

$\frac{1}{18} \times 7 \Rightarrow \mathbf{\frac{7}{18}}$

Q11 (b) $1e \rightarrow \frac{1}{18}$

$7e \rightarrow \frac{7}{18}$

$1b \rightarrow \frac{10}{18} - \frac{7}{18} = \frac{3}{18}$

$\frac{7}{18} - \frac{3}{18} = \frac{4}{18}$

$4u \rightarrow 128$
$1u \rightarrow 32$
$18u \Rightarrow \underline{\$576}$

Q12 (a) $4S + 4P \rightarrow 3S + 8P$
$4S \rightarrow 4u + 72$
$4P \rightarrow 4u$
$3S \rightarrow 3u + 54$
$8P \rightarrow 8u$
$4u + 4u + 72 \rightarrow 3u + 8u + 54$
$8u + 72 \rightarrow 11u + 54$
$3u \rightarrow 18$
$1u \rightarrow 6$
$18 + 6 \Rightarrow \underline{\$24}$

Q12 (b) \$240

Q13 (a) $\frac{16}{35}$

Q13 (b) 60 adults

Q14 (a) $(180° - 90°) \div 2 = 45°$
$180° - 20° - 90° = 70°$
$180° - 70° = 110°$
$110° \div 2 = \underline{55°}$

Q14 (b) $180° - 90° - 55° = 35°$
$180° - 45° - 45° - 35° - 35° = \underline{20°}$

Q15 (a) 8:10am

Q15 (b) $333\frac{1}{3}$ m/min

Q16 (a) $3 + 8 = 11$
$\frac{1}{2} \times 11 \times 3 = \underline{16.5 \text{ cm}^2}$

Q16 (b) $\frac{1}{2} \times 8 \times 14 = 56$

$8 \times 8 = 64$
$6 \times 6 = 36$
$(36 + 64) - 56 = 44$
$3 \times 3 = 9$
$36 + 64 + 9 = 109$
$109 - 44 - 16.5 = \underline{48.5 \text{ cm}^2}$

Q17 (a) Shop B

Q17 (b) $210

Q17 (c) 12.5%

Q18 (a)

5	15	25

Q18 (b) 406

Q18 (c) Total triangles $\rightarrow 28 \times 28 = 784$
Unshaded triangles $\rightarrow 784 - 406 \Rightarrow \underline{378}$

End