Anglo-Chinese School (Junior)

COMBINED PRELIMINARY EXAMINATIONS (2016)

PRIMARY 6

MATHEMATICS

PAPER 1

Booklet A

Tuesday **23 August 2016** **50 min**

Name: _____ ( ) Class: 6.( ) Parent's Signature: _____

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 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. In 356.174, what does the digit 7 stand for?

   1) 7 thousandths
   2) 7 hundredths
   3) 7 tenths
   4) 7 tens

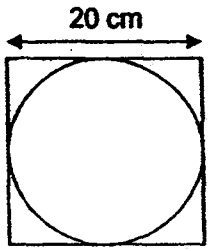
2. Find the value of $7 \times 6 - 5 + 4 \times 2$.

   1) 9
   2) 29
   3) 45
   4) 51

3. Cole had 48 marbles. He gave $\frac{1}{6}$ of them to Jayden, who already had 14 marbles. How many marbles had Jayden in the end?

   1) 6
   2) 8
   3) 20
   4) 22

4. The figure below is made up of a square and a circle. The square has sides of 20 cm. What is the area of the circle? (Take $\pi = 3.14$)



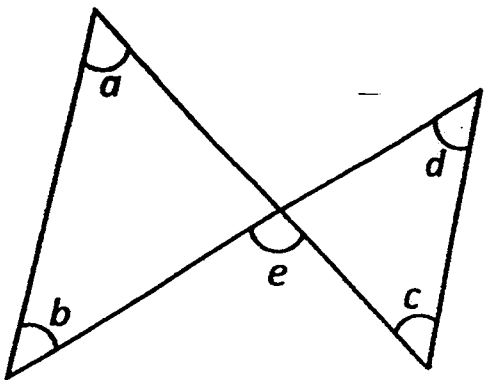
1) 31.4 cm^2
2) 62.8 cm^2
3) 314 cm^2
4) 1256 cm^2

5. The table below shows the amount of money saved by 4 children. Which child saved the most money?

Name	Number of $1 coins	Number of $2 notes	Number of $5 notes
Andy	5	6	4
Bobby	3	4	5
Charles	6	5	4
Darwin	2	2	6

1) Andy
2) Bobby
3) Charles
4) Darwin

6. The figure below consists of 4 straight lines. All the 5 marked angles have different values. Which of the following is TRUE?



1) $\angle a + \angle b + \angle e = 180°$
2) $\angle a + \angle c + \angle d = 180°$
3) $\angle a + \angle b = \angle c + \angle d$
4) $\angle a + \angle d = \angle b + \angle c$

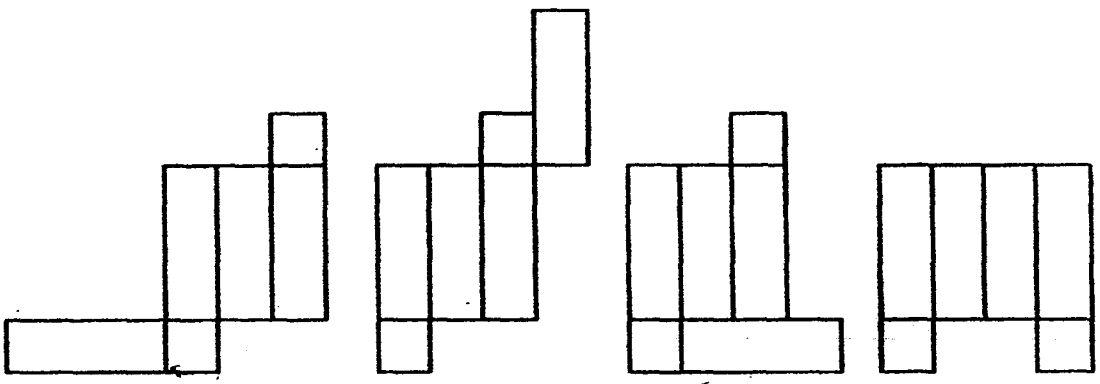
7. Simplify the algebraic expression. $8m + 7 + 3m - 6$.

1) $5m + 1$
2) $5m + 13$
3) $11m + 1$
4) $11m + 13$

8. $\frac{2}{5}$ of the pupils in a school took part in a cross country race. Given that 480 pupils did not take part in the race, what was the total number of pupils in the school?

1) 800
2) 900
3) 1 200
4) 1 400

9. Which of the following 4 figures below is the net of a cuboid?

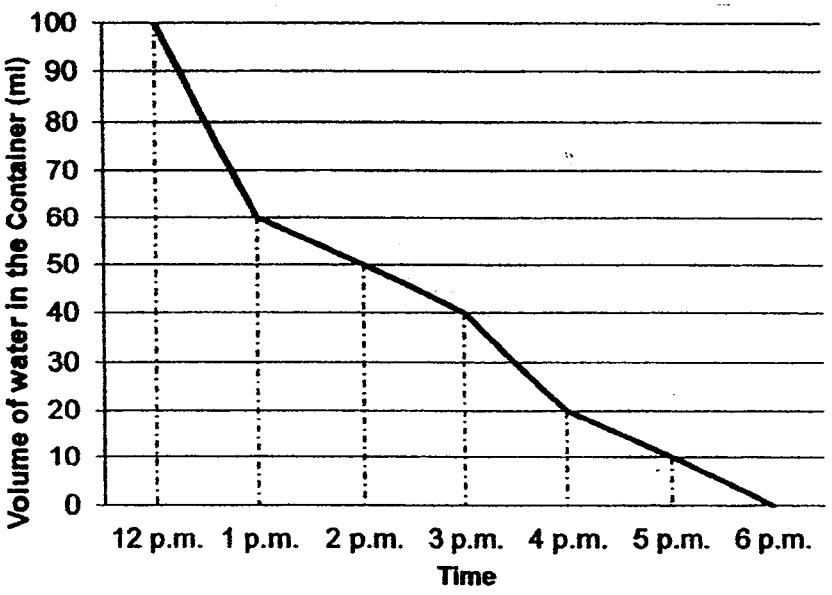


(1) (2) (3) (4)

10. Mr Wong needs to be at Newton Building for a meeting at 11 a.m. He needs to take a 55-min train ride from East Station to Newton Station. He then needs to take a 20-min walk from Newton Station to Newton Building. What is the **latest time** he must catch the train from the East Station to be punctual for his meeting?

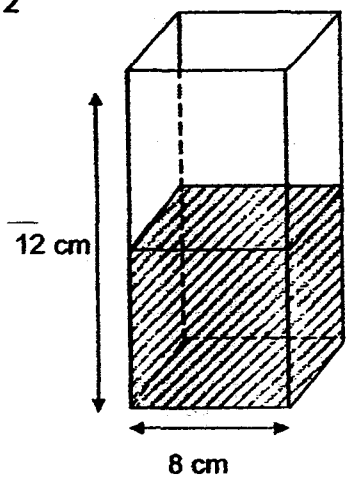
1) 9.05 a.m.
2) 9.30 a.m.
3) 9.40 a.m.
4) 9.50 a.m.

11. A container with full capacity of 100 ml of water started leaking at 12 p.m. The line graph below shows the volume of water in the container from 12 p.m. to 6 p.m. At what time was the container $\frac{1}{5}$ full of water?



1) 1 p.m.
2) 2 p.m.
3) 3 p.m.
4) 4 p.m.

12. A container of height 12 cm has a square base of side 8 cm. The container is $\frac{1}{2}$ filled with water. Find the volume of water in the container.

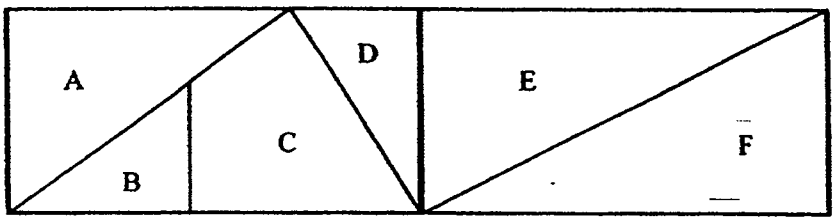


1) 96 cm^3
2) 384 cm^3
3) 576 cm^3
4) 768 cm^3

13. 50 boys in a class was given some marbles to share equally. When 15 of them gave away all their marbles to the rest of the boys, the rest of the boys had 12 extra marbles each. How many marbles did each of the remaining boys receive?

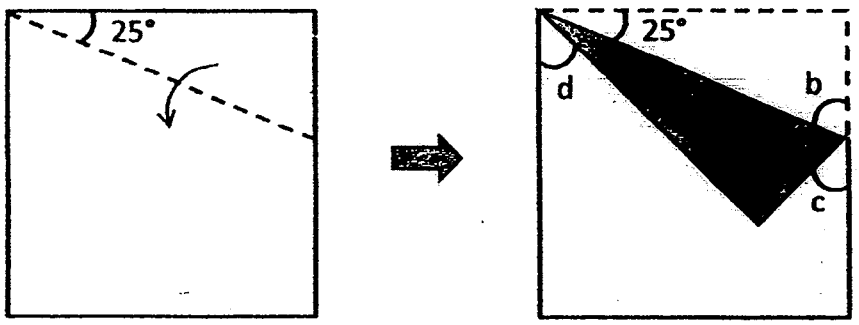
1) 40
2) 35
3) 28
4) 16

14. The figure below is made up of two identical rectangles. These two identical rectangles are divided into 6 parts A, B, C, D, E and F. The area of B is 10 % of the whole figure. What percentage of the whole figure is the total area of C and F?



1) 30 %
2) 35 %
3) 40 %
4) 45 %

15. The figure below shows a square piece of paper that has been folded along the dotted line. Which of the marked angle has a value of 50°?



1) a
2) b
3) c
4) d

Anglo-Chinese School (Junior)

COMBINED PRELIMINARY EXAMINATIONS (2016)

PRIMARY 6

MATHEMATICS

PAPER 1

Booklet B

Tuesday **23 August 2016** **50 min**

Name: _____ ( ) Class: 6.( ) Parent's Signature:_____

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.

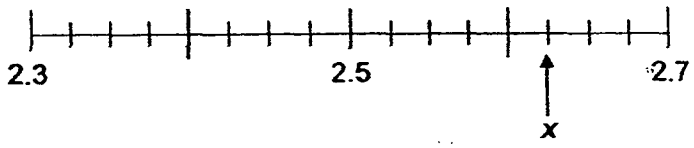
Paper	Booklet	Possible Marks	Marks Obtained
Paper 1	A	20	
	B	20	
Total		40	

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 in the units stated and to its simplest form whenever necessary.

(10 marks)

16. **What is the decimal represented by *x*?**



Answer : _____

17. Find the value of 109 × 60.

Answer : _____

18. Express $\frac{5}{7}$ as a decimal, rounded off to 2 decimal places.

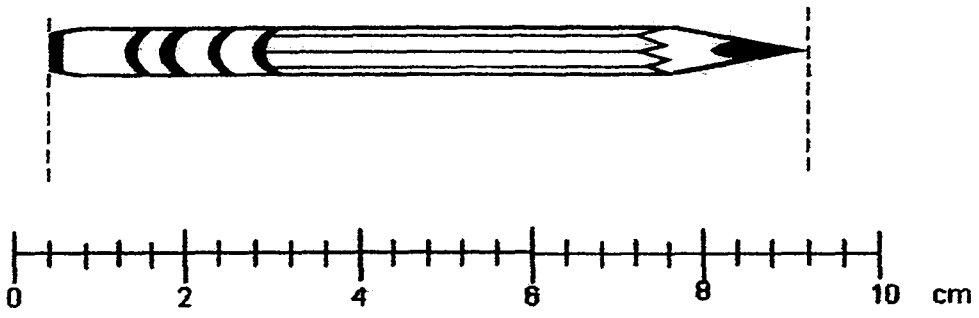
Answer : _____

Sub-Total :

19. A movie started at 14 10 and ended at 17 05. What was the duration of the movie? Express your answer in minutes.

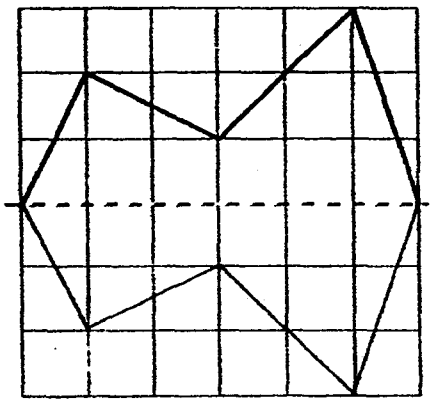
Answer : _____ min

20. A pencil is placed next to the scale. What is the length of the pencil?



Answer : _____ cm

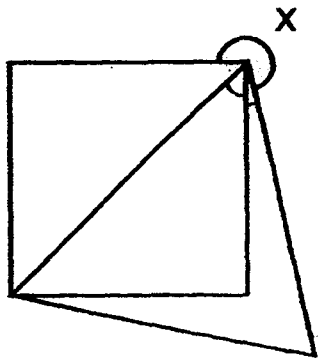
21. In the figure below, draw 4 more straight lines so that the final figure has 1 line of symmetry indicated by the dotted line.



22. Water from a tap leaks at a rate of 8 ml per minute. At this rate, how much water is leaked in 3 hours? Give your answer in litres

Answer : _____ ℓ

23. The figure below consists of a square and an equilateral triangle. What is the value of the marked angle x?



Answer : _____ °

24. The mass of a parcel is 7.4 kg when rounded off to 1 decimal place. What is the smallest possible mass of the parcel?

Answer : _____ kg

25. 2 years ago, Wendy was 6*y* years old. What is Wendy's age 5 years from now?

Answer : _____

Sub-Total : [ ]

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)

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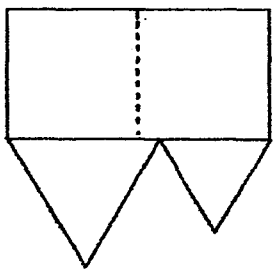
26. I am a 3-digit number. The sum of my 3 digits is 9. I am a common multiple of 5 and 6. What is my smallest possible value?

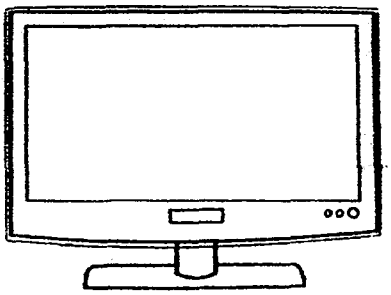
Answer : _____

27. The figure below is formed using 2 identical squares of side 10 cm and 4 equilateral triangles. Find the perimeter of the figure.

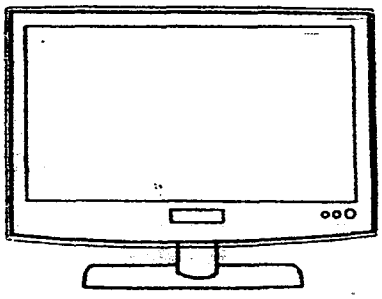


Answer : _____ cm

28. **Alan went to an electrical department store to buy television. In the end, he paid a total of $600 for two similar televisions. Find the original price of one television.**



Buy First TV at 20% discount



Buy Second TV at 30% discount

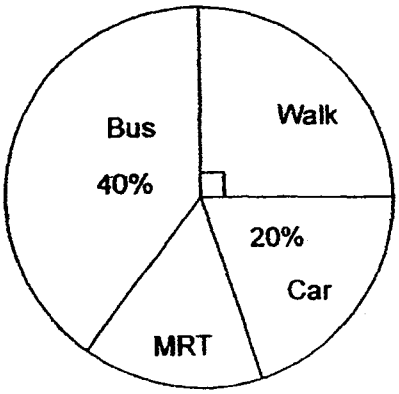
Answer : $_____

29. **A pencil costs *n* cents and a pen costs 90 cents more than a pencil. William wants to buy a pen and 2 pencils but is short of 70 cents. How much money does William have? Express your answer in terms of *n* cents.**

Answer : _____

Sub-Total :

30. The pie chart shows the different mode of transport that the 1200 students take to go to school. How many students take MRT to school?



Answer : _____

 Sub-Total : _____

Anglo-Chinese School (Junior)

COMBINED PRELIMINARY EXAMINATIONS (2016)

PRIMARY 6

MATHEMATICS

PAPER 2

Tuesday **23 August 2016** **1 hr 40 min**

Name: _____ ( ) Class: 6.( ) Parent's Signature: _____

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 allowed to use a calculator for this paper.

Paper	Possible Marks	Marks Obtained
Paper 1	40	
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. Bala had some money. He used $\frac{3}{4}$ of it on a watch and $\frac{1}{6}$ of it on a bag. The watch and bag cost $236.50. How much money had Bala at first?

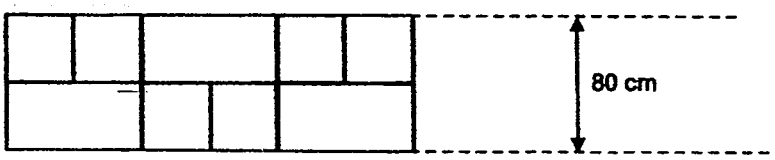
Answer : $ _____

2. Mrs Lim has some flour and wants to make some croissants. The same mass of flour is used for each croissants. If she makes 10 croissants, she will have 280 g of flour left. If she makes 15 croissants, she will need another 20 g of flour. What is the mass of flour Mrs Lim have?

Answer : _____ g

Sub-Total : [ ]

3. A walkway of length 16 m was completely covered with identical rectangular tiles and identical square tiles, following the pattern shown below. The width of the walkway is 80 cm. How many square tiles were used to cover the entire walkway?



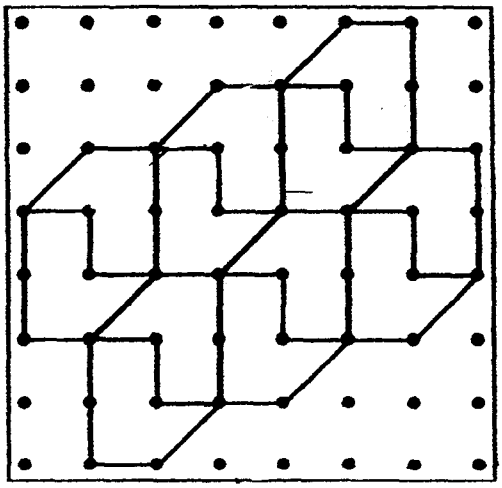
Answer : _____

4. The average amount of money Albert and Bella has is $62 while the average amount of money Albert and Cedric has is $84. How much more does Cedric have than Bella?

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.



Sub-Total :

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)

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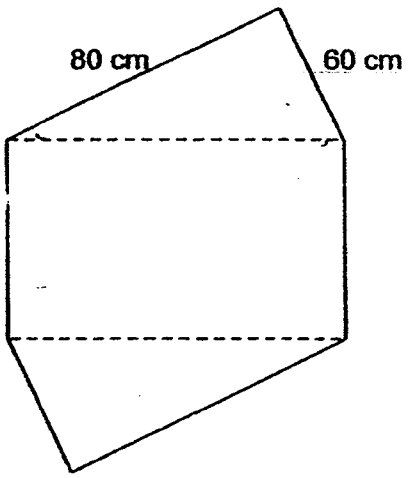
6. The total cost of 6 files and 3 story books is $86.10. One file is $4.55 cheaper than one story book. Find the cost of a story book.

Answer : _____ [3]

7. The figure below is made up of a rectangle and 2 identical right-angled triangles with sides measuring 60 cm, 80 cm and 100 cm. The perimeter of the figure is 420 cm. Find the area of the figure.



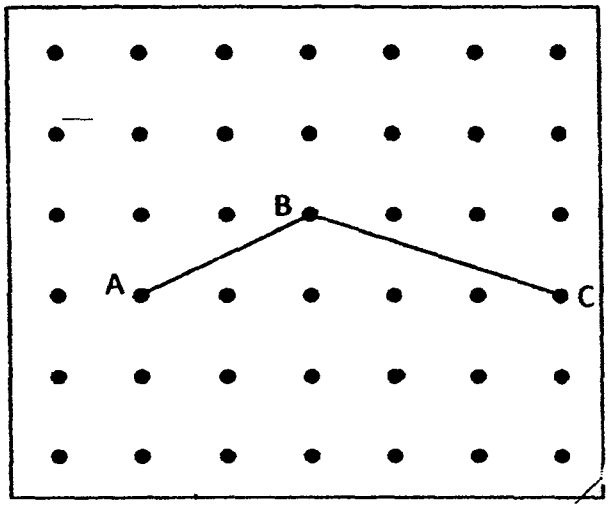
Answer : _____ [3]

Sub-Total : ____

8. The figure below shows a grid made up of dots. Three of the dots are labelled A, B and C respectively. All lines drawn must start and end on dots.

(a) Draw a trapezium ABCD where AB is parallel to DC and DC is twice as long as AB. Label dot D. [2]

(b) Draw an isosceles triangle BCE where E is above the trapezium. Label dot E. [1]



9. Susan saves 20% of her salary each month. She found that if her salary were to increase by 10%, her savings would increase by $20. Find Susan's salary.

Answer : _____ [3]

Sub-Total :

10. Nick and David went shopping together with a total sum of $90. Nick spent twice as much as David. The amount David had left was $9 more than what he had spent. He had twice as much money left as Nick.

(a) How much money did David spend?

(b) How much money did Nick have at first?

Answer : (a)_____ [2]

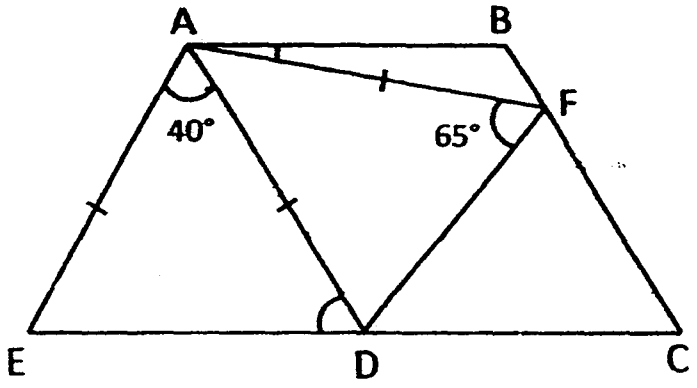
(b)_____ [2]

Sub-Total :

11. In the figure below, AE = AD = AF. ABCD is a parallelogram. EDC and BFC are straight lines. ∠AFD is 65° and ∠EAD is 40°

(a) Find ∠ADE

(b) Find ∠BAF

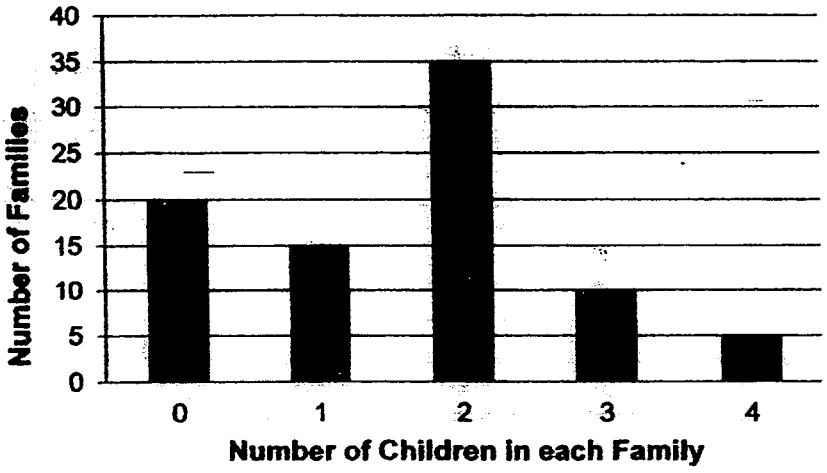


Answer : (a)_____ [2]

(b)_____ [2]

Sub-Total :

12. The bar graph below shows the results of a survey which was conducted to find out the number of children in each family in Sunshine Housing Estate.



(a) How many families have 3 or more children?

(b) What is the total number of children in the Sunshine Housing Estate?

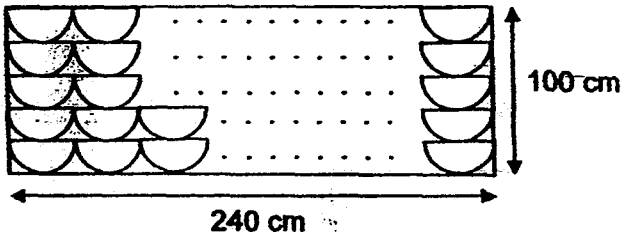
Answer : (a)_____[1]

(b)_____[2]

Sub-Total :

13. Aunty June has a rectangular noticeboard and some circular pieces of paper of diameter 40 cm. She cuts all the circular pieces of paper into semi circles and decorate the entire noticeboard using all the semi-circles, following the pattern shown below. Each piece of semi-circular paper is in contact with those next to it.

Circular Paper



a) How many pieces of circular paper does Aunty June have at first?

b) Find the area of the noticeboard covered by the semi-circular pieces of paper. Take $\pi = 3.14$.

Answer : (a)_____ [2]

(b)_____ [2]

Sub-Total :

14. Tom and Peter took part in a cycling competition. Tom cycled at a speed of 20 km/h. Both of them did not change their speed throughout the competition. When Peter covered $\frac{1}{2}$ the distance, Tom was 4.5 km in front of him. Tom reached the finishing line at 11.15 a.m. What time did Peter reach the finishing line?

Answer : _____

Sub-Total :

has

15. A signboard ~~was demonstrated with~~ flashing bulbs of 3 colours. The red bulbs flashed every 6 seconds. The blue bulbs flashed every 12 seconds. The yellow bulbs flashed every 18 seconds. All the bulbs flashed together at 6 p.m. How many times would all the bulbs flashed together from ~~6.05 p.m. to 6.35 p.m.?~~

6.00 p.m to 6.30 p.m?

Answer : _____ [4]

Sub-Total :

16. Tina started saving by putting 2 coins in a piggy bank every day. Each coin was either a 10 cent coin or a 50 cent coin. In addition, her mother put in a $1 coin in the piggy bank for every 5 days. The total value of the coins after 165 days was $128.40.

(a) How many coins were there altogether?
(b) How many 10 cents coins did Tina save in 165 days?

Answer : (a)_____[2]

(b)_____ [3]

Sub-Total :

17. At 8 a.m., Mr Jacobs turned on 2 taps to fill up an empty fish tank. Water flowed from each tap at 2.5 litres per minute. At 8.25 a.m., he turned off both taps at the same time after he had filled up $\frac{5}{6}$ of the fish tank.

(a) What was the capacity of the fish tank?

(b) The fish tank has a length of 100 cm. Its length is twice of its breadth. What is the height of the fish tank?

Answer : (a) _____ [2]

(b) _____ [3]

Sub-Total :

18. Box A and B contained some red and blue ribbons. In Box A, the number of red ribbons was $\frac{2}{3}$ of the number of blue ribbons. In box B, the ratio of the number of red ribbons to the number of the blue ribbons was 8 : 7. The number of ribbons in Box B was twice the number of ribbons in Box A.

(a) What was the ratio of the number of red ribbons in Box A to the number of red ribbons in Box B? Give your answer in the simplest form.

(b) The number of blue ribbons in Box B was 50 more than the number of blue ribbons in Box A. How many ribbons are there in Box B?

Answer : (a) _____ [2]

(b) _____ [3]

End of Paper 2

YEAR : 2016
LEVEL : PRIMARY 6
SCHOOL : : ACS (JUNIOR)
SUBJECT : : MATHEMATICS
TERM : PRELIMINARY EXAMINATIONS

Paper 1

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

Q16 2.625

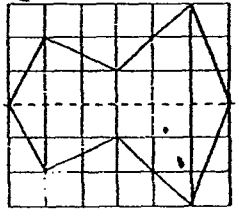
Q17 6540

Q18 0.71

Q19 175 min

Q20 8.8 cm

Q21



Q22 1.44 ℓ

Q23 360° - 105° = 255°

Q24 7.35kg

Q25 13 years old

Q26 180

Q27 10 x 10 = 100 cm

Q28 $400

Q29 $3n + 20¢$

Q30 $100 - 25 - 40 - 20 = 15$
$1200 \div 100 = 12$
$12 \times 15 =$ <u>180</u> students take MRT to school

<u>Paper 2</u>

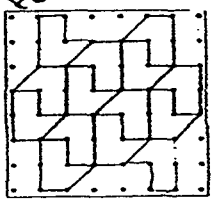
Q1 $\frac{3}{4} = \frac{18}{24}, \frac{1}{6} = \frac{4}{24}$, $236.50 \div 22 = 10.75 \rightarrow 10.75 \times 24 =$ <u>$258</u>

Q2 $280 + 20 = 300 \rightarrow 300 \div 5 = 60 \rightarrow 60 \times 10 = 600 \Rightarrow 600 + 280 =$ <u>880 g</u>

Q3 *2 squares = 1 rectangle, 16m = 1600cm*
$1600 \div 80 = 20 \Rightarrow 20 \times 2 =$ <u>40 square tiles</u>

Q4 $62 \times 2 = 124$, $84 \times 2 = 168 \Rightarrow 168 - 124 =$ <u>$44</u>

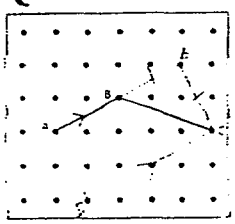
Q5



Q6 $\$4.55 \times 6 = \$27.30 \rightarrow \$86.10 + \$27.30 = \$113.40 \Rightarrow$
$\$113.40 \div 9 =$ <u>$12.60</u> cost of a story book

Q7 $420 - 80 - 80 - 60 - 60 = 140 \rightarrow 140 \div 2 = 70$
$100 \times 70 = 7000, \frac{1}{2} \times 80 \times 60 = 2400 \rightarrow 2400 \times 2 = 4800 \Rightarrow$
$7000 + 4800 = 11800\ cm^2$

Q8



Q9 $20 \div 20 = 1 \rightarrow 1 \times 100 = 100 \rightarrow 100 \div 10 = 10 \Rightarrow 10 \times 100 =$ <u>$1000</u>

Q10a $\$90 - \$9 - \$4.50 = \$76.50 \Rightarrow \$76.50 \div \$4.50 =$ David spent <u>$17</u>

Q10b \$17 x 2 = \$34 → 17 x $\frac{1}{2}$ = \$8.50 ⇒
\$8.50 + \$34 + \$4.50 = Nick had <u>\$47</u> at first

Q11a 180° - 40° = 140° ⇒ 140° ÷ 2 = ∠ADE is <u>70°</u>

Q11b 180° - 70° = 110° → 360° - 110° - 110° = 140° → 140° ÷ 2 = 70° →
180° - 65° - 65° = 50° ⇒ 70° - 50° = ∠BAF is <u>20°</u>

Q12a 10 + 5 = <u>15</u> families have 3 or more children

Q12b 15 x 1 = 15 , 35 x 2 = 70 , 10 x 3 = 30 , 4 x 5 = 20 ⇒
15 + 70 + 30 + 20 = <u>135</u> children

Q13a 100 ÷ 20 = 5 , 240 ÷ 40 = 6
5 x 6 = 30 ⇒ 30 ÷ 2 = <u>15</u> pieces

Q13b 240 x 100 = 24000 , 3.14 x 20 x 20 = 1256 ⇒ 1256 x 15 = <u>18840 cm</u>^{3}

Q14 4.5 ÷ 20 = 0.225h = 13.5min → 13.5 x 2 = 27min ⇒
11.15am + 27min = <u>11.42am</u> reached

Q15 All flash together every 36 seconds
30min = 1800sec → 1800 ÷ 36 = 50 ⇒ 50 + 1 = <u>51</u> times

Q16a 165 ÷ 5 = 33 , 165 x 2 = 330 ⇒ 330 + 33 = <u>363</u> coins

Q16b 128.40 – 33 = 95.40
(174 of 10¢ = 17.40) + (156 of 50¢ = 78) is 95.40
Tina saved <u>174</u> of 10¢ coins in 165 days

Q17a 2.5 x 2 = 5 , 25 x 5 = 125
125 ÷ 5 = 25 ⇒ 25 x 6 = <u>150 ℓ</u>

Q17b 100 ÷ 2 = 50 , 150 ℓ = 150000cm^3
100 x 50 = 5000 ⇒ 150000 ÷ 5000 = <u>30 cm</u>

Q18a 8 : 7 = 16 : 14 , $\frac{2}{3} = \frac{6}{9}$
Box A → R : B = 6 : 9 ⇒ 6 : 16 = <u>3 : 8</u>

Q18b 14 – 9 = 5 , 50 ÷ 5 = 10 ⇒ 10 x 30 = <u>300</u> ribbons in Box

END