Anglo-Chinese School (Junior)

SEMESTRAL ASSESSMENT 1 (2018)

PRIMARY 6

MATHEMATICS

PAPER 1

Booklet A

Wednesday **9 May 2018** **1 h**

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.

This question paper consists of 7 printed pages (inclusive of cover page).

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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. The height of an adult male human is about _____.

   1) 17 cm
   2) 17 m
   3) 170 cm
   4) 170 m

2. There were 613 478 downloads for a mobile game last month. Round this number to the nearest thousand.

   1) 600 000
   2) 610 000
   3) 613 000
   4) 614 000

3. In 6.543, what does the 4 stand for?

   1) 4 ones
   2) 4 tens
   3) 4 tenths
   4) 4 hundredths

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4. What is the value of $10 \div 5000$?

1) 500
2) 50
3) 0.02
4) 0.002

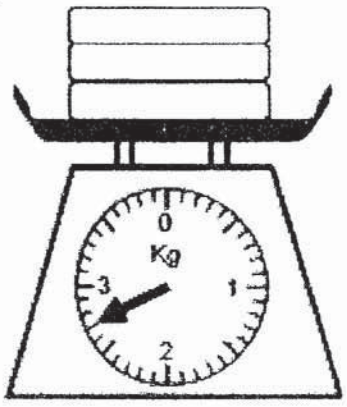
5. Which of the following fractions is closest to 1?

1) $\frac{3}{4}$
2) $\frac{4}{3}$
3) $\frac{5}{6}$
4) $\frac{6}{5}$

6. The mass of 3 identical books is shown on the weighing scale below.

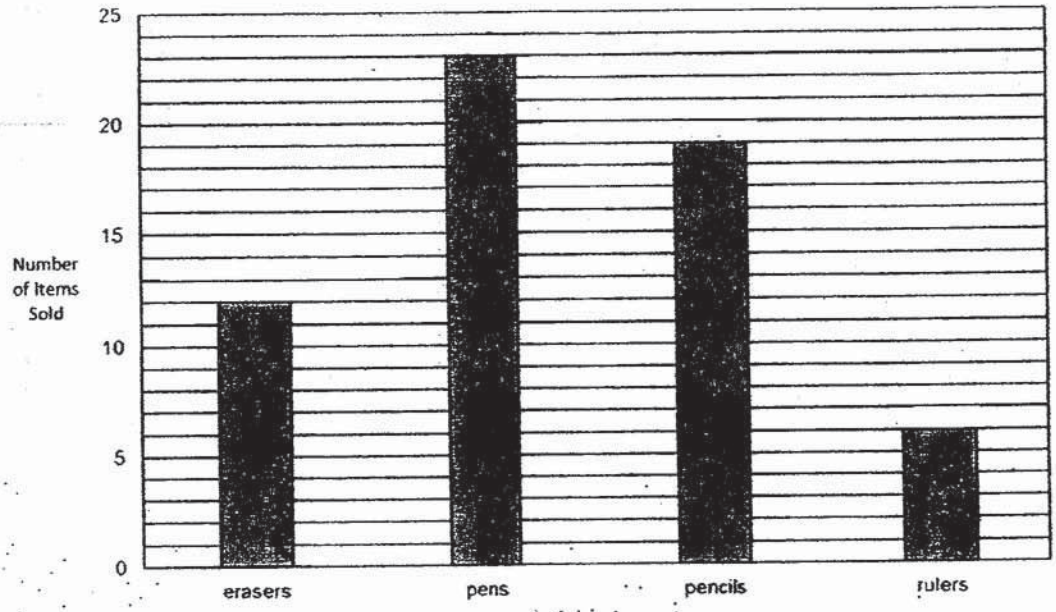
What is the mass of 1 book?

1) 0.09 kg
2) 0.9 kg
3) 2.07 kg
4) 2.7 kg



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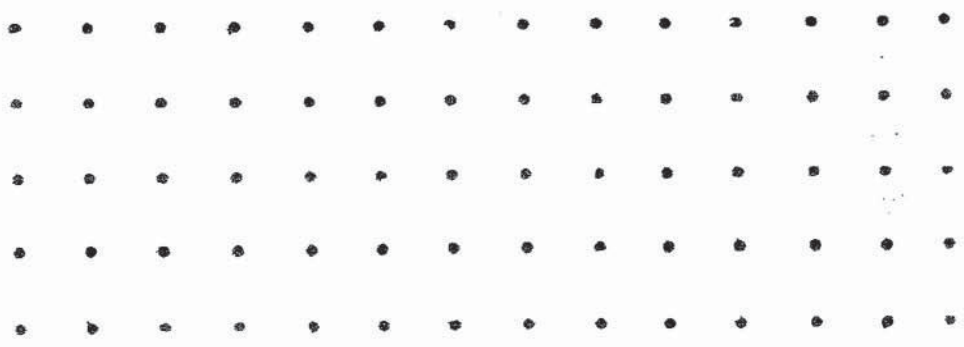
7. The graph below shows the number of stationery sold in a book shop on Monday.



What was the total number of erasers, pencils and rulers sold on Monday?

1) 37
2) 41
3) 54
4) 60

8. In the dotted grid below, which of the following shape is a rhombus?



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

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9. Ahmad was facing south-west at first. He makes a 225° anti-clockwise turn. In which direction is he facing now?



1) North
2) East
3) North-East
4) South-East

10. The price of a bag is 7 times the price of a book and the price of the same book is 4 times the price of a pen. Find the ratio of the price of the pen to the price of the bag.

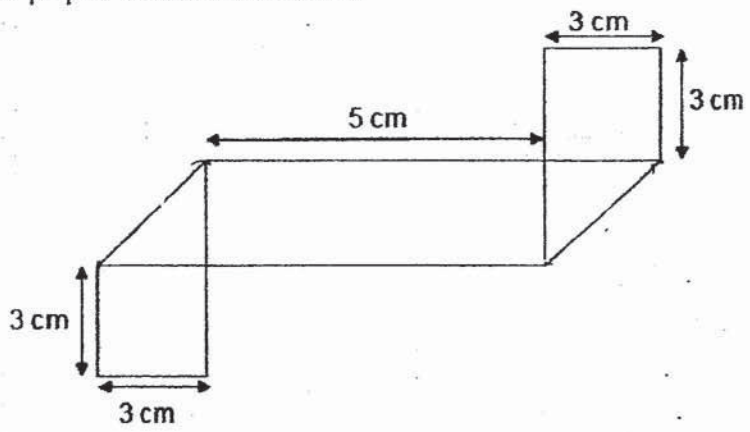
1) 1 : 7
2) 1 : 28
3) 7 : 1
4) 28 : 1

11. Chairs were arranged in rows in a hall. Guo Ming sat on one of the chairs. There were 4 chairs to his left and 7 chairs to his right. There were 4 rows of chairs in front of him and 4 rows of chairs behind him. How many chairs were there in the hall?

1) 88
2) 96
3) 99
4) 108

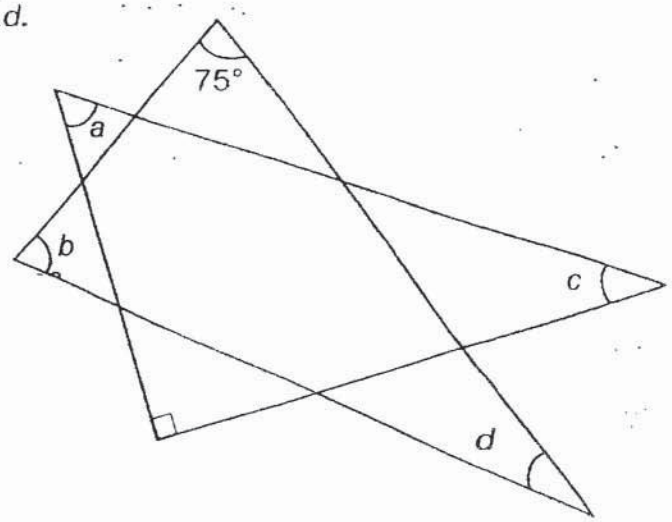
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12. A rectangle piece of paper is folded twice as shown below. Find the area of the paper before it is folded.



1) 42 cm^2
2) 45 cm^2
3) 48 cm^2
4) 51 cm^2

13. Find the sum of $\angle a$, $\angle b$, $\angle c$ *and* $\angle d$.



1) 90°
2) 105°
3) 165°
4) 195°

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14. Jack and Tom had some money. Jack spent $10 and gave Tom $15. In the end, Jack had the same amount of money as Tom. How much more money did Jack have than Tom at first?

1) $5
2) $25
3) $30
4) $40

15. In a carpark, there were y cars. The number of cars was three times the number of vans. The number of motorcycles was 15 more than the number of vans. Which of the following algebraic expressions correctly shows the number of motorcycles in the carpark?

1) $3y + 15$
2) $\frac{y}{3} + 15$
3) $\frac{y}{3} - 15$
4) $\frac{y + 15}{3}$

End of Booklet A

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Anglo-Chinese School (Junior)

SEMESTRAL ASSESSMENT 1 (2018)

PRIMARY 6

MATHEMATICS

PAPER 1

Booklet B

Wednesday **9 May 2018** **1 h**

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.

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Questions **16** to **20** carry 1 mark each. Write your answers in the spaces provided. For questions which require units, give your answers to the units stated. (5 marks)

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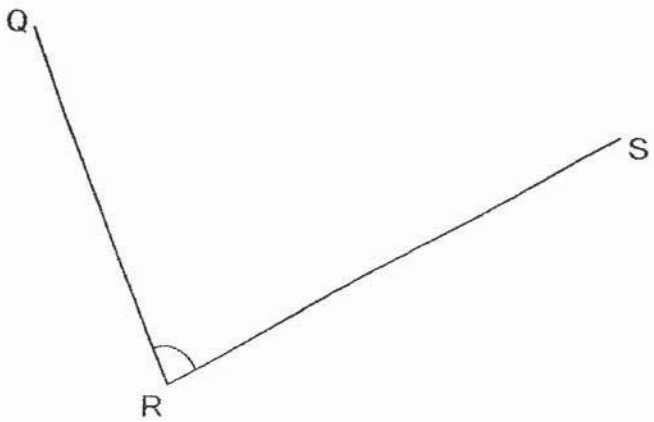
16. Express 6.45 as a mixed number in its simplest form.

Ans : _____

17. Find the sum of $\frac{2}{3}$ and $\frac{5}{7}$.
Leave your answer as a mixed number in its simplest form.

Ans : _____

18. Measure and write down the value of ∠QRS.

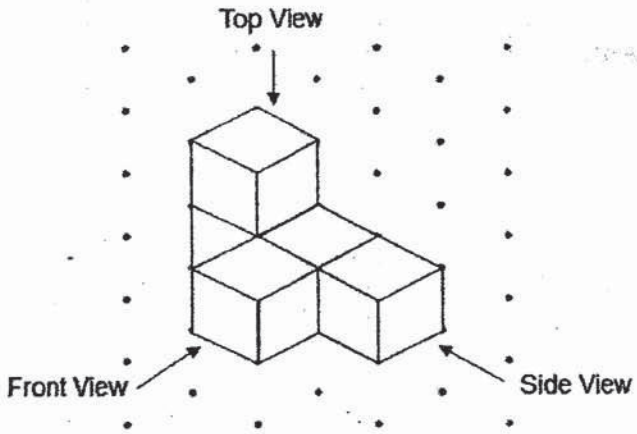


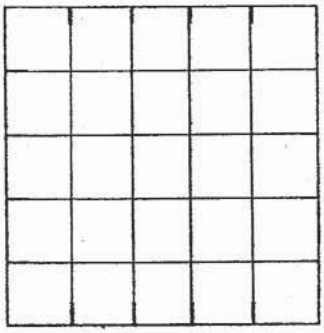
Ans : _____ °

Sub-Total :

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19. The following figure is made up of unit cubes. **Shade** the top view of the figure in the given square grid on the right.





20. What is the price of the toaster after adding 7% GST?



Ans : $_____

Sub-Total

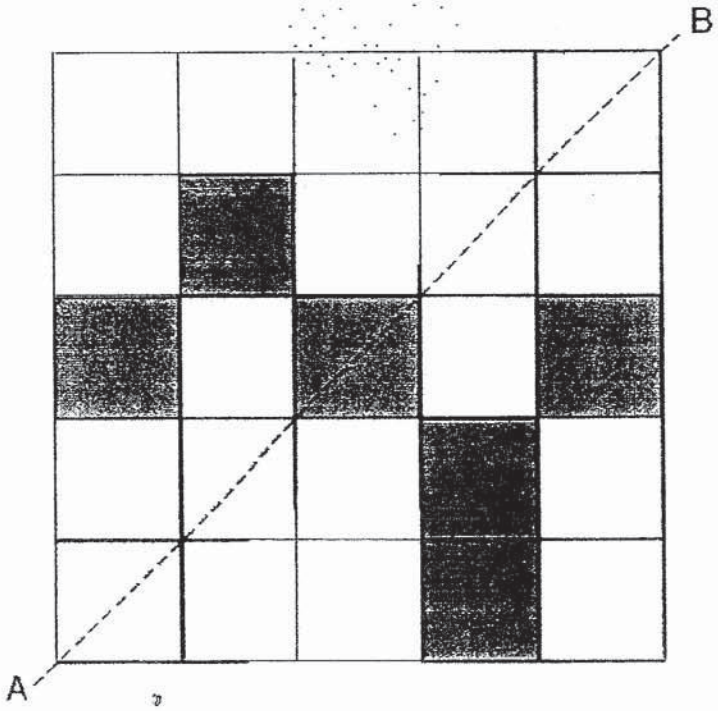
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Questions **21** to **30** carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which requires units, give your answers in the units stated. (20 marks)

21. There are red, blue and yellow marbles in a box. $\frac{2}{7}$ of the marbles are red. $\frac{3}{10}$ of the remaining marbles are blue and the rest are yellow. Given that there are 56 yellow marbles, how many marbles are there in the box?

Ans : _____

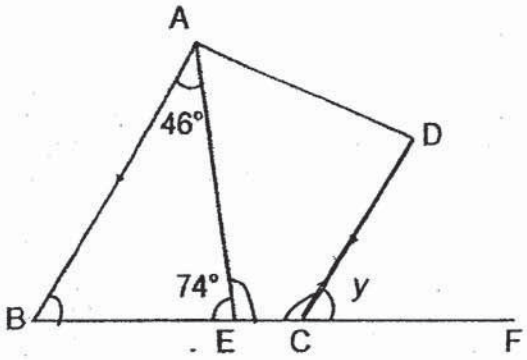
22. The figure below is made up of 25 squares. 6 of the squares in the figure are shaded. Shade 3 more squares to complete the figure so that the dotted line AB is a line of symmetry.



Sub-Total

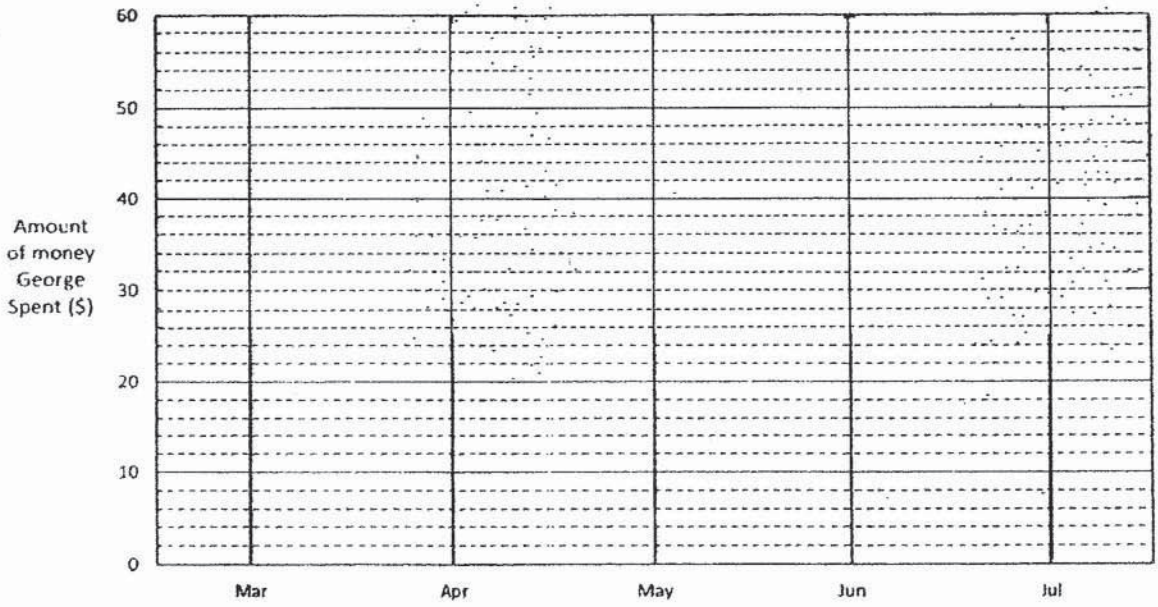
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23. In the figure below, ABCD is a trapezium. $\angle BAE = 46°$, $\angle AEB = 74°$. Find $\angle y$.



Ans : _____ °

George received $60 from his dad every month for pocket money. The line graph shows the amount he spent each month. He saved whatever amount that was leftover each month.



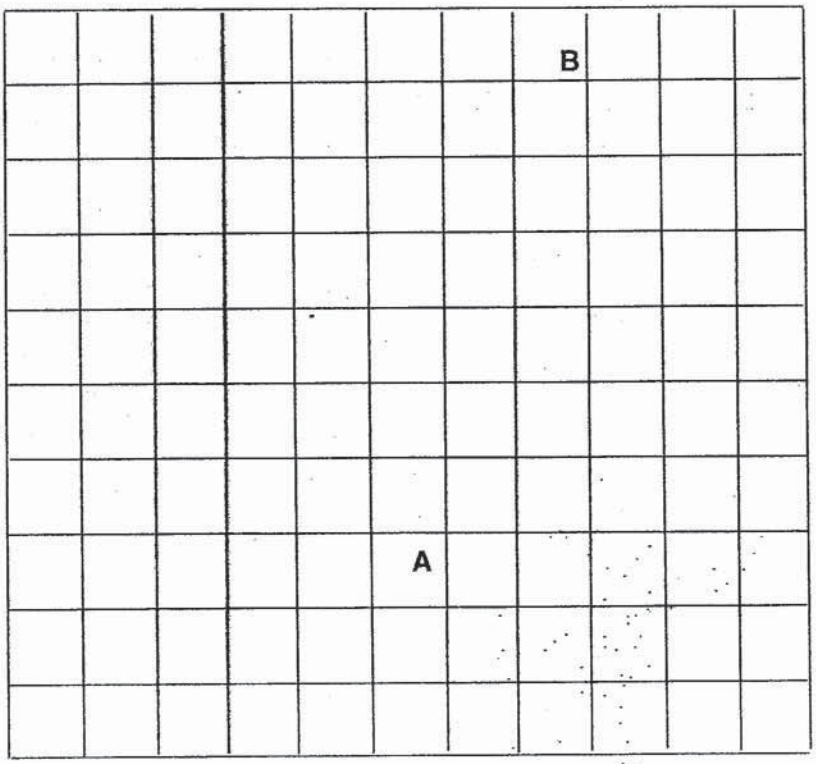
24. How much did George save in total from March to May?

Ans : $_____

Sub-Total

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25. In the square grid below, one side of a triangle ABC have been drawn. ∠BAC is a right angle and AB is twice the length of AC. Complete the drawing of triangle ABC within the grid. [2]



26. When Adam takes a bus to get to work, it takes him 45 minutes. When he takes a taxi, it takes him $\frac{1}{3}$ of that time. Adam needs to leave at 7.15 a.m. to get to work on time when he takes a bus. What is the latest time he needs to leave home to get to work on time when he takes a taxi? Leave your answer in the 24-hr clock format.

Ans : _____

Sub Total:

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27. Sue had 6 bottles of water. Each bottle contained the same amount of water. She poured out 200 ml of water from each bottle. After that, the amount of water left in the 6 bottles was equal to the amount of water in 4 of the bottles at first. What was the amount of water in each bottle at first? Give your answer in millilitres.

Ans : _____ ml

28. The average mass of some adults is 60 kg. There is an equal number of men and women. The average mass of the men is 70 kg.

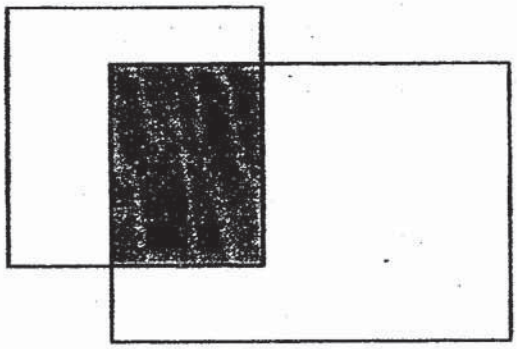
Each statement below is either true, false or not possible to tell from the information given above. For each statement, put **one** tick (✓) in the correct column.

Statement	True	False	Not possible to tell
All the men are heavier than the women.			
The average mass of the women is less than 60 kg.			

Sub-Total

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29. The figure below is made up of a square and a rectangle. The ratio of the shaded area to the area of the square is 2 : 3 and the ratio of the shaded area to the area of the rectangle is 3 : 7. What fraction of the figure is shaded?



Ans : _____

30. It takes 4 minutes for Tap A to fully fill an empty tank on its own. It takes 5 minutes for Tap B to fully fill the same empty tank on its own. Starting with an empty tank, how long does it take for both taps to fill the entire tank given that both taps are turned on at same time? Give your answer in minutes.

Ans : _____ min

End of Booklet B

Sub Total: [ ]

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Anglo-Chinese School (Junior)

SEMESTRAL ASSESSMENT 1 (2018)

PRIMARY 6

MATHEMATICS

PAPER 2

Wednesday **9 May 2018** **1 h 30 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 can use a calculator for this paper.

Paper	Booklet	Possible Marks	Marks Obtained
1	A	20	
	B	25	
2		55	
Total		100	

This question paper consists of 16 printed pages (inclusive of cover page).

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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 math scores **of April**, Ben, Chris and Darren was 86. When Edward's math score was **added** in, the average score then became 74. What was Edward's math **score?**

Ans : _____

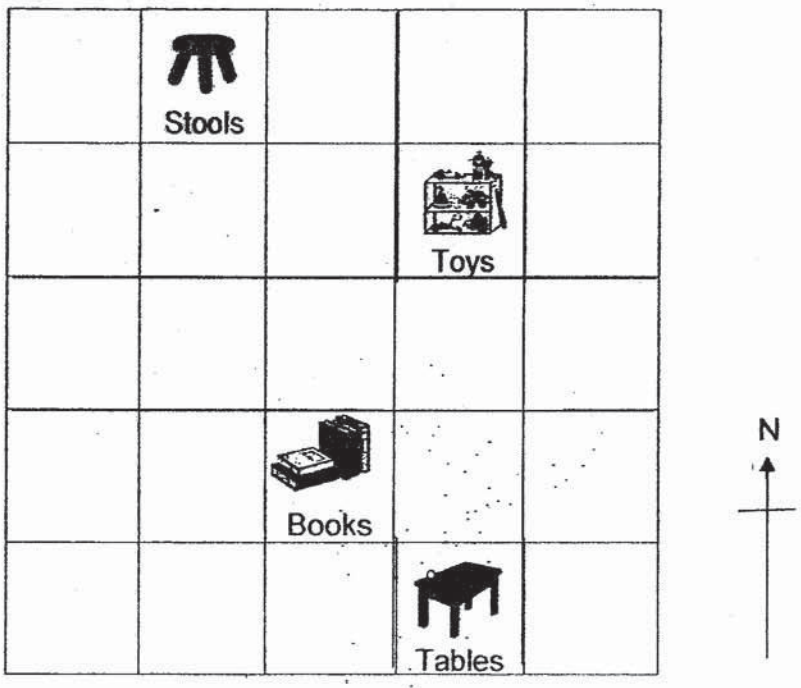
2. The mass of a papaya is 2.4 kg. The mass of a durian is $\frac{2}{3}$ the mass of the papaya. What is the total mass of both the papaya and the durian?

Ans : _____ kg

Sub-Total :

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3. The square grid below shows the plan of a playroom.



(a) In what direction are the tables from the toys?

(b) A new fish tank will be placed in the playroom at a location south- east of the stools and north-east of the books. Put a tick (✓) in the square where the fish tank will be placed.

Ans : (a) _____

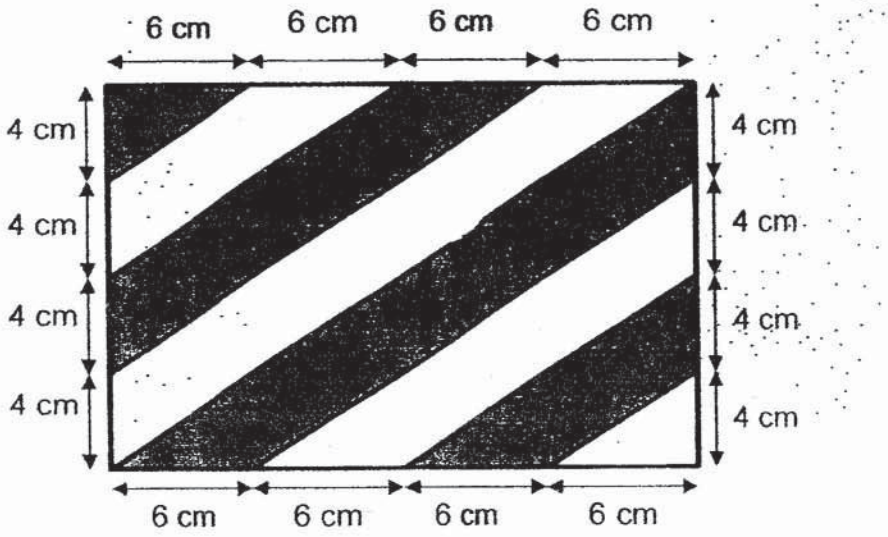
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4. A shop sold pens for 70¢ each and rulers for 50¢ each. May bought some pens and rulers. She bought 8 more rulers than pens but she spent $1.40 more on the pens than on the rulers. How many rulers did she buy?

Ans : _____

5. The figure below shows a rectangle with shaded stripes. Find the area of the shaded parts.



Ans : _____ cm^2

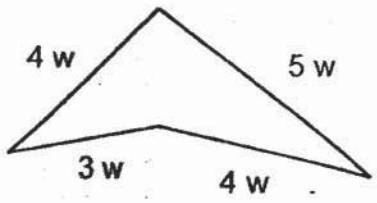
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For questions **6** to **17**, show your working clearly and write your answers in the spaces provided. The number of marks available is shown in brackets [ ] at the end of each question or part-question. **(45 marks)**

---

6. Gabriel had a piece of wire 150 cm long. He used part of the wire to make a figure show below.



(a) Express the length of remaining wire in terms of w in the simplest form.

(b) Gabriel used the remaining wire to form an equilateral triangle. If w = 6, find the length of one side of the equilateral triangle.

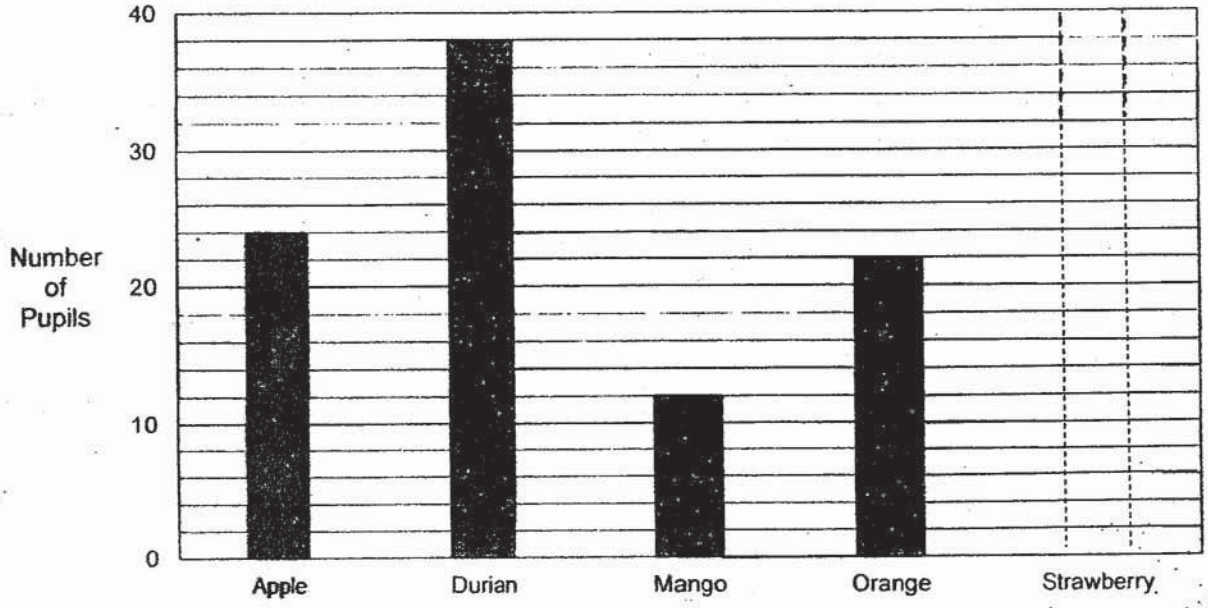
Ans : (a)_____ [1]

(b)_____ [2]

Sub-Total

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7. A group of pupils were asked to choose their favourite fruits. The results are shown in the graph below. The bar that shows the number of pupils who chose strawberry has not been drawn.



(a) What is the ratio of the number of pupils who chose Apple to the total number of pupils who chose Durian, Mango and Orange?

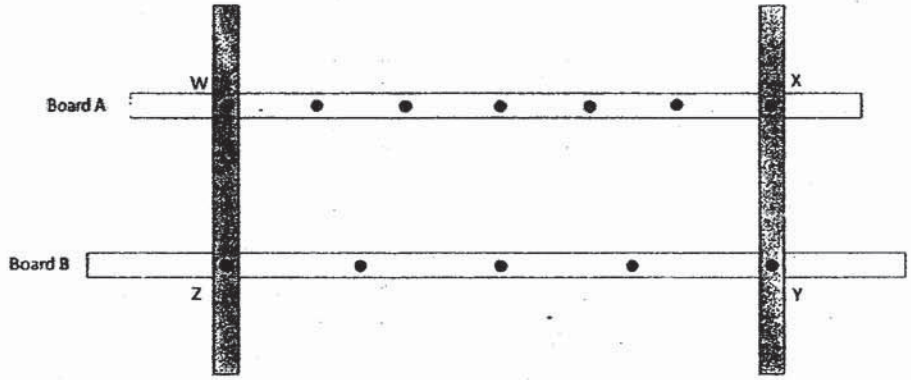
(b) $\frac{1}{4}$ of the pupils chose strawberry. Draw the bar that shows the number of pupils who chose strawberry in the graph above. [2]

Ans : (a)_____ [1]

Sub Total:

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8. 4 wooden boards were nailed together as shown in the picture below. Board A has 7 holes which divides it into 8 equal parts and Board B has 5 holes which divides it into 6 equal parts. Holes W, X, Y and Z are four corners of a rectangle.



Given that Board B is 270 cm long, what is the length of Board A?

Ans _____ [3]

Sub-Total

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9. Lincoln and Mandy started jogging from the same point. Mandy started jogging 4 minutes earlier than Lincoln. Lincoln's jogging speed was 400 m/min and Mandy's jogging speed was 300 m/min. They went in the same direction and did not change their speeds throughout.

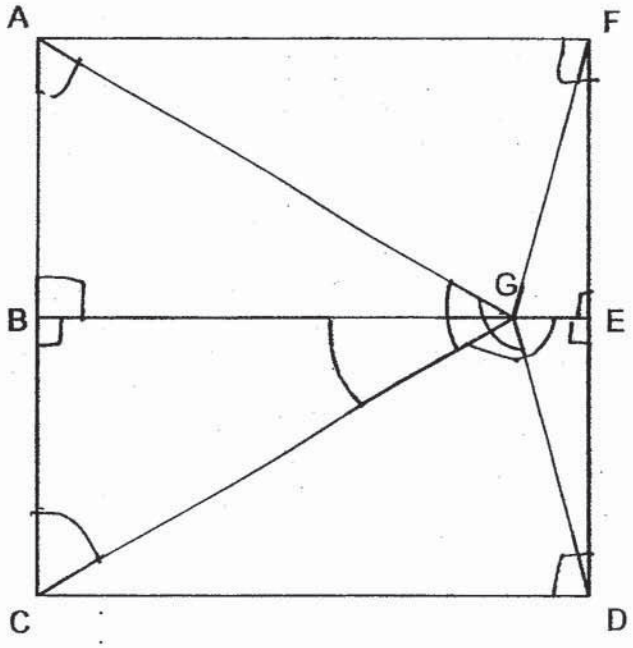
What distance would Mandy have jogged when Lincoln caught up with her?

Ans : _____ [3]

Sub Total: [ ]

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10. In the figure below ACDF is a square. AC is perpendicular to BE. AG = BE = CG. Find ∠AGD.



Ans : _____ [3]

Sub Total:

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11. Four students completed a quiz. They had to answer as many questions as possible within a given time. 5 points were awarded for each correct answer but 2 points were deducted for each wrong answer. The table shows the number of correct and wrong answers obtained by three of the students.

Student	Questions	
	Correct	Wrong
A	24	11
B	25	14
C	22	8

(a) Which of the three students scored the most number of points? What was the student's points?

(b) Student D attempted the same number of questions as Student C but obtained 21 points more. How many questions did student D answer correctly?

Ans : (a)student _____

Points: _____ [2]

(b) _____ [2]

Sub Total: [ ]

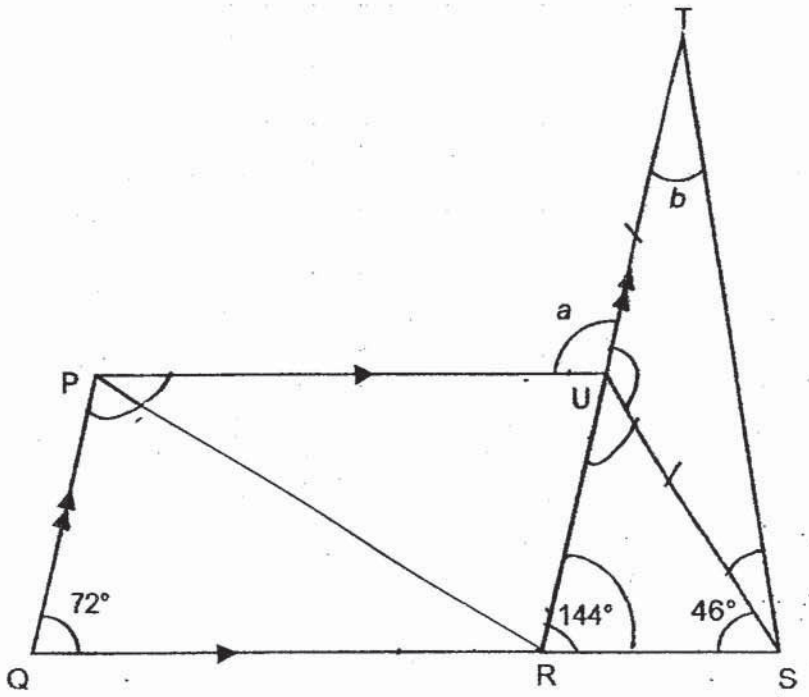
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12. In the figure below, PQSU is a trapezium, PQRU is a parallelogram and SUT is an isosceles triangle. $\angle PQR = 72°$, $\angle PRS = 144°$ and $\angle RSU = 46°$.

Find

(a) $\angle a$

(b) $\angle b$



Ans : (a) _____ [1]

(b) _____ [3]

Sub-Total

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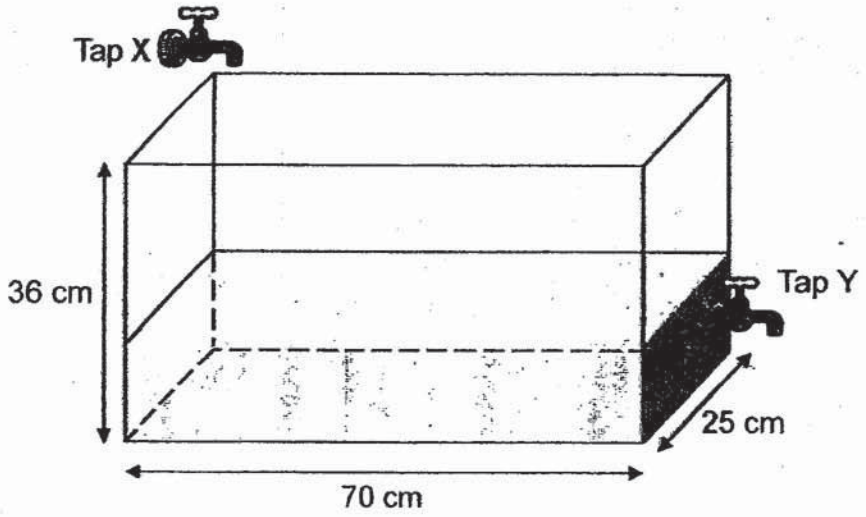
13. Ms Teo made some muffins to sell. $\frac{4}{5}$ of them were chocolate muffins and the rest were blueberry muffins. After selling 84 blueberry muffins and $\frac{5}{8}$ of the chocolate muffins, she had $\frac{2}{5}$ of the muffins left. How many muffins did Ms Teo sell?

Ans : _____ [4]

Sub Total:

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14. A tank measuring 36 cm by 70 cm by 25 cm was $\frac{1}{3}$ filled with water at first. Tap X and Y were turned on at the same time. Water was flowing out from Tap Y at a rate of 750 cm^3 per minute. It took 30 minutes to fill the tank to the brim.



(a) How much more water was needed to fill the tank to the brim at first?

(b) How much water was flowing into the tank from Tap X per minute? Leave your answer in cm^3.

Ans : (a) _____ [1]

(b) _____ [3]

Sub Total: [ ]

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15. The figures below are made up of shaded and unshaded squares

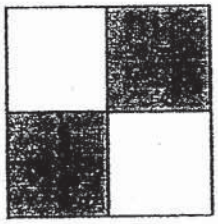


Figure 1

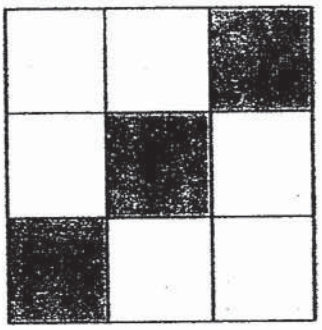


Figure 2

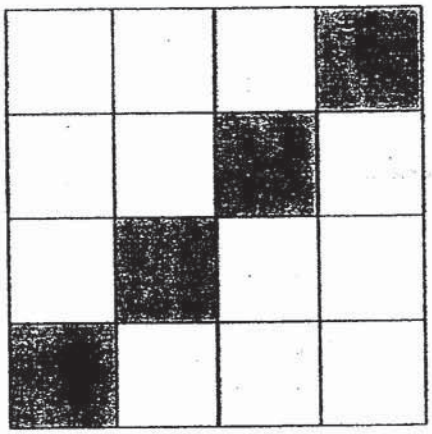


Figure 3

(a) Fill in the missing blanks for (i) and (ii)

Figure	Number of shaded squares	Number of unshaded squares	Total number of squares
1	2	2	4
2	3	6	9
3	4	12	16
4	5	(i)	(ii)

[1]

(b) Find the number of unshaded squares in figure 40.

(c) Which figure has 380 unshaded squares?

Ans : (b) _____ [2]

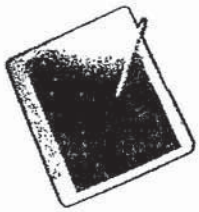
(c) _____ [2]

Sub Total:

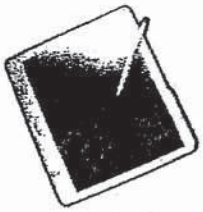
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16. Jia Ming paid $960 for two tablets by using the E-fair Savings Coupon shown below. If he had not used the E-fair Savings Coupon, how much **more** would he have had to pay for the two tablets?

E-Fair Savings Coupon



First tablet at 30% discount



Second tablet at 50% discount

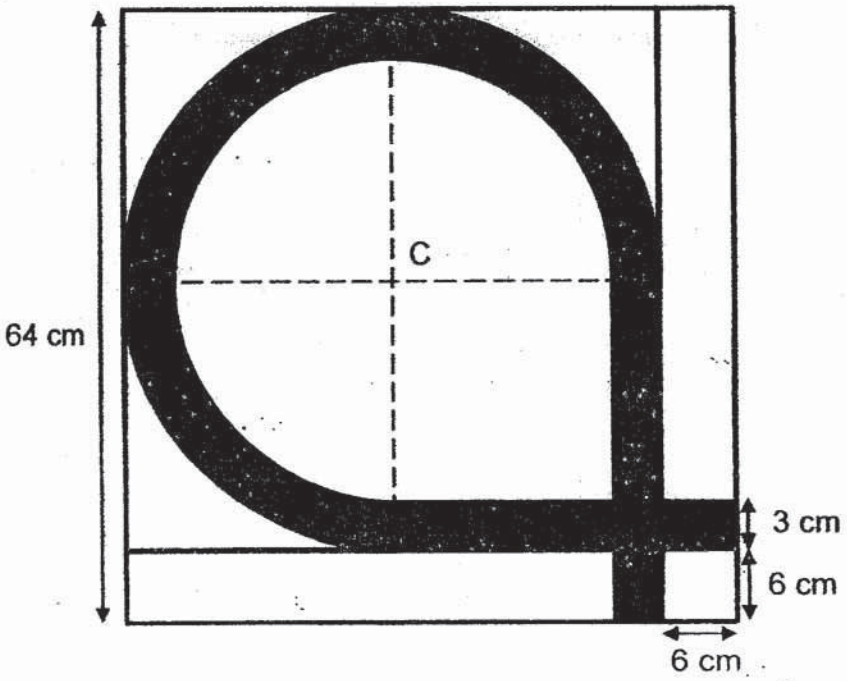
Ans : _____ [4]

Sub Total:

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17. A square piece of paper of side 64 cm has a design on it. The design is made by a 3 cm wide shaded strip. The outline of the design is made up of quarter circles with the center C and straight lines. All straight lines meet at right angles. Find the area of the shaded part.

(Take $\pi = 3.14$)



Ans: _____ [5]

End of Paper 2

Sub Total:

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Answer Key & Worked Solutions

ACS Paper

P6 Mathematics SA1 2018

Paper 1

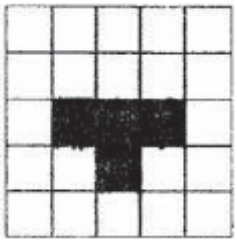
Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
3	3	4	4	3	2	1	2	1	2
Q11	Q12	Q13	Q14	Q15					
4	4	4	4	2					

Q16) $6\frac{9}{20}$

Q17) $1\frac{8}{21}$

Q18) 82 °

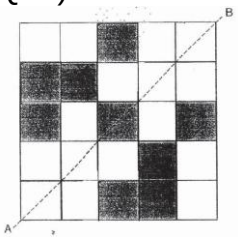
Q19)



Q20) $64.20

Q21) 112 marbles

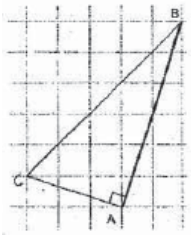
Q22)



Q23) 60 °

Q24) $62

Q25)



Q26) 0745

Q27) 600 m ℓ

Q28)
i) Not possible to tell
ii) True

Q29) $\frac{6}{17}$

Q30) $2\frac{2}{9}$ min

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Paper 2

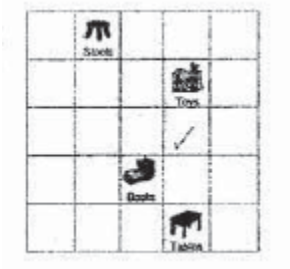
Q1. 370 – 344 → 26

Q2. 3u → 2.4

5u → $\frac{5}{3}$ x 2.4 → 4 kg

Q3. (a) South

(b)



Q4. 4 + 1.4 = 5.4

0.70 – 0.50 = 0.20

5.4 ÷ 0.2 = 27

27 + 8 = 35 rulers

Q5. Area of shaded parts → 12 + 36 + 60 + 84 → 192 cm^2

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Worked Solutions

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

6. a)

Length of remaining wire = 150 – 3w – 4w – 4w – 5w = 150 – 16w cm

b)

Perimeter of equilateral triangle = 150 – 16 x 6 = 54 cm

Length of side of triangle = 54 ÷ 3 = 18 cm

Ans: (a) 150 – 16w cm
(b) 18 cm

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7. a)

Number of apple fans = 24

Number of durian, mango and orange fans = 38 + 12 + 22 = 72

Ratio of number of apple fans to total number of durian, mango, orange fans →

24 : 72 → 1: 3

b)

$\frac{3}{4}$ → (24 + 72) → 96

$\frac{1}{4}$ → 96 ÷ 3 → 32

Number of strawberry fans = 32

Ans: (a) 1 : 3
(b) 32

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8. $\frac{6}{6}$ of Board B = 270 cm

$\frac{1}{6}$ of Board B = 270 ÷ 6 = 45 cm

$\frac{4}{6}$ of Board B = 45 x 4 = 180 cm

$\frac{6}{8}$ of Board A = 180 cm

$\frac{1}{8}$ of Board A = 180 ÷ 6 = 30 cm

$\frac{8}{8}$ of Board A = 30 x 8 = 240 cm

Ans: 240 cm

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9. Let t = time in minutes that Lincoln took to meet Mandy

Distance Lincoln travelled = 400 x t = 400t m

Distance Mandy travelled = 300 x (t + 4) = 300t + 1200 m

Distance Lincoln travelled = distance Mandy travelled

400 t = 300 t + 1200

100 t = 1200

t = 12 minutes

Distance Mandy jogged when they met = 300 x 12 + 1200 = 4800 m

Ans: 4800 m

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10. ∠ AGC = 180 ÷ 3 = 60° (AGC is equilateral triangle)

∠ GCD = 90 – 60 = 30°

∠ CGD = (180 – 30) ÷ 2 = 75° (CDG is isosceles triangle)

∠ AGD = ∠ AGC + ∠ CGD = 60 + 75 = 135°

Ans: 135°

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11. a)

Student A's score = 24 x 5 – 11 x 2 = 98

Student B's score = 25 x 5 – 14 x 2 = 97

Student C's score = 22 x 5 – 8 x 2 = 94

Student A score the most points

b)

Number of questions done by Student D = 22 + 8 = 30

Student D's score = 94 + 21 = 115

Difference between correct and wrong score = 5 + 2 = 7

If all 30 answers are correct, points = 30 x 5 = 150

Excess = 150 – 115 = 35

Number of wrong answers = 35 ÷ 7 = 5

Number of correct answers = 30 – 5 = 25

Ans: (a) Student A, 98

(b) 25

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12. a)

$\angle u = 72°$

$\angle a = 180 – 72 = 108°$

b)

$\angle URS = 72°$

$\angle RUS = 180 – 72 – 46 = 62°$

$\angle TUS = 180 – 62 = 118°$

$\angle b = (180 – 118) \div 2 = 31°$

Ans: (a) 108°
(b) 31°

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13. Let number of muffins made = 40u (multiple of 5 and 8)

Number of chocolate muffins made = $\frac{4}{5}$ x 40u = 32u

Number of chocolate muffins sold = $\frac{5}{8}$ x 32u = 20u

Total number of muffins sold = $\frac{3}{5}$ x 40u = 24u

Number of blueberry muffins sold = 24u – 20u = 4u = 84
u = 84 ÷ 4 = 21
Number of muffins sold = 24u = 24 x 21 = 504

Ans: 504 muffins

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14. a)

Amount of water to fill to brim = $\frac{2}{3}$ x 36 x 70 x 25 = 42 000 cm^3

b)

Net inflow of 2 taps = 42000 ÷ 30 = 1400 cm^3 per minute

Flow rate of Tap X = 750 + 1400 = 2150 cm^3 per minute

Ans: (a) 42 000 cm^3

(b) 2150 cm^3 / min

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15. a)

ii) Let figure number = n

Number of shaded squares = n + 1

Total number of squares for fig 4 = (n + 1) x (n + 1)

= (4 + 1) x (4 + 1) = 25

i)

Number of unshaded squares for fig 4= (n + 1) x (n + 1) - (n + 1) = n x (n+1)

= 4 x 5 = 20

b)

Unshaded squares in figure 40 = (40 + 1) x (40 + 1) - (40 + 1) = 1640

c)

unshaded square for fig 20 = n x (n+1) = 420

unshaded square for fig 19 = 19 x 20 = 380

Ans: (a) i) 20, ii) 25
(b) 1640
(c) 19

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16. Let cost of undiscounted tablet = u

Total cost of discounted table = $\frac{7}{10}$ u + $\frac{5}{10}$ u = $\frac{6}{5}$ u = 960

u = 960 x 5 ÷ 6 = \$800

Extra amount without discount = 800 x 2 – 960 = \$640

Ans: \$640

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17. Radius of larger circle = (64 – 6) ÷ 2 = 29 cm

Area of larger circle = π x 29 x 29 = 841π cm^2

Radius of smaller circle = 29 – 3 = 26 cm

Area of smaller circle = π x 26 x 26 = 676π cm^2

Area of $\frac{3}{4}$ shaded ring = $\frac{3}{4}$ x (841 π – 676 π) = 388.575 cm^2

Area of cross = (29 + 6) x 3 x 2 - 9 = 201 cm^2

Area of shaded part = 388.58 + 201 = 589.58 cm^2

Ans: 598.58 cm^2

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