SA2

Anglo-Chinese School (Junior)

PRELIMINARY EXAMINATION (2021)

PRIMARY 6

MATHEMATICS

PAPER 1

Booklet A

Friday **20 August 2021** **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 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) and shade your answer (1, 2, 3 or 4) on the Optical Answer Sheet (OAS). (20 marks)

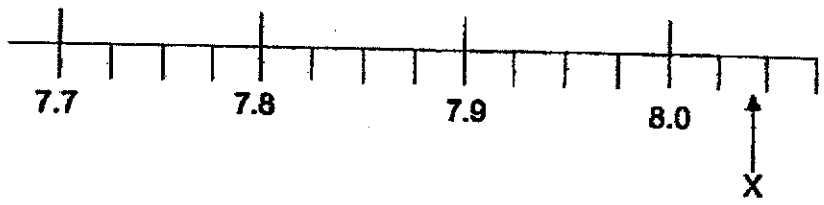
1. Round off 314 678 to the nearest thousand

   1) 314 000
   2) 314 680
   3) 314 700
   4) 315 000

2. Express $2\frac{9}{15}$ as a decimal.

   1) 2.35
   2) 2.6
   3) 2.9
   4) 2.915

3. Part of a scale is shown below. What is the most likely value of the reading at X?



   1) 8.02
   2) 8.04
   3) 8.2
   4) 8.4

4. Which of the following fractions is the largest?

1) $\frac{2}{5}$
2) $\frac{3}{7}$
3) $\frac{4}{9}$
4) $\frac{5}{12}$

5. Which one of the following would be the most likely height of the ceiling of your classroom?

1) 3 m
2) 3 cm
3) 30 m
4) 30 cm

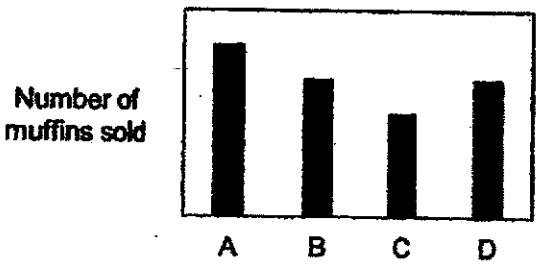
6. Which of the following is the same as 6.07 kg?

1) 6 kg 7 g
2) 6 kg 70 g
3) 60 kg 7 g
4) 60 kg 70 g

7. The average of 5 numbers is 30. 4 of the numbers has a total of 96. What is the fifth number?

1) 30
2) 44
3) 54
4) 66

8. The bar graph below shows the number of four types of muffins sold by a shop in a day.



Which table best represent the information in the table?

1)

Muffins	Number Sold
A	80
B	100
C	60
D	100

2)

Muffins	Number Sold
A	60
B	80
C	100
D	80

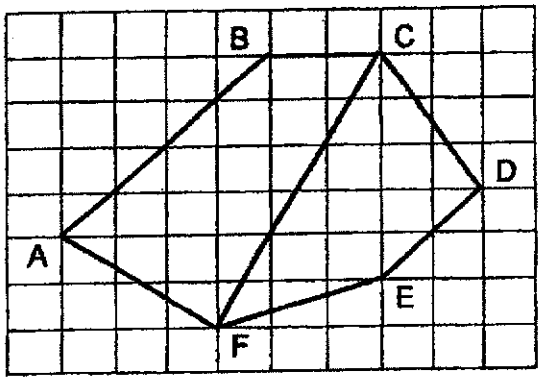
3)

Muffins	Number Sold
A	100
B	80
C	60
D	80

4)

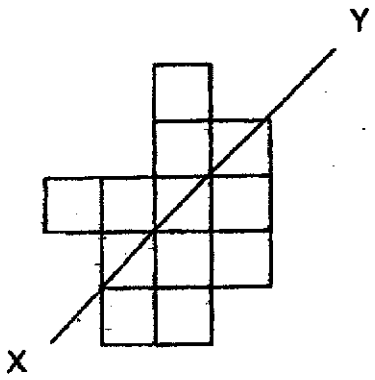
Muffins	Number Sold
A	100
B	60
C	80
D	60

9. Which pair of lines in the square grid is parallel?



1) AF // CD
2) AF // BC
3) AB // FE
4) AB // ED

10. The figure below shows *14* squares. What is the smallest number of squares that must be added so that the line XY becomes a line of symmetry?

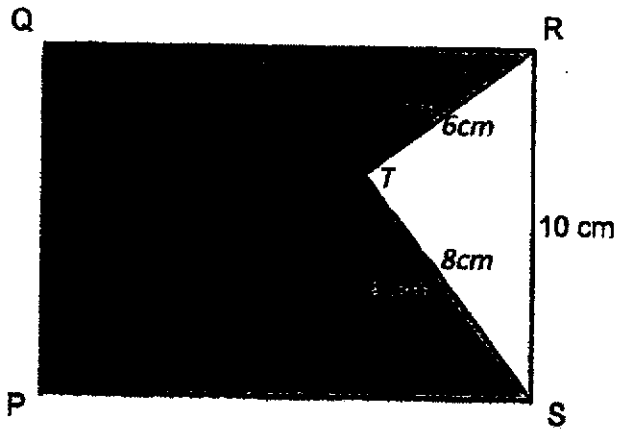


1) 1
2) 2
3) 3
4) 4

11. At a concert, the ratio of the number of boys to the number of girls is 3 : 4. The ratio of the number of children to the number of adults is 1 : 2. What is the ratio of the number of girls to the number of adults?

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

12. In the figure below, PQRS is a rectangle. RTS is a right-angled triangle of sides measuring 6 cm, 8 cm and 10 cm. The perimeter of the shaded part is 56 cm. Find the area of rectangle PQRS.



1) 110 cm^2
2) 160 cm^2
3) 210 cm^2
4) 320 cm^2

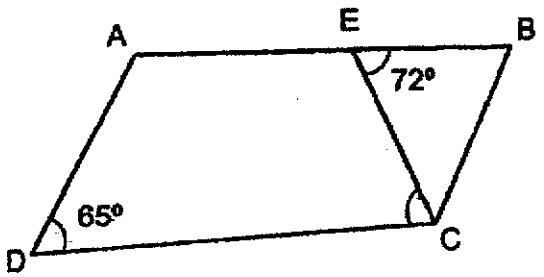
13. Mrs Samy travelled 10.8 km in a taxi from home to the shopping mall. Her taxi fare was based on the charges shown below.

First km	$3.70
Every additional 500 m or part thereof	$0.30

How much was her taxi fare?

1) $6.40
2) $6.70
3) $9.40
4) $9.70

14. In the figure below, ABCD is trapezium. AD is parallel to BC and BC = EC. ∠BEC = 72° and ∠ADC = 65°. Find ∠ ECD.



1) 36°
2) 43°
3) 72°
4) 79°

15. Suresh used $\frac{2}{5}$ of his money to buy 4 pens and 9 rulers. The cost of 2 pens was the same as that of 3 rulers. What was the greatest number of rulers that Suresh could buy with the money he had left?

1) 15
2) 21
3) 22
4) 30

End of Booklet A

Anglo-Chinese School (Junior)

PRELIMINARY EXAMINATION (2021)

PRIMARY 6

MATHEMATICS

PAPER 1

Booklet B

Friday **20 August 2021** **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.

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

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)

16. Find the value of $8 \times 3 - (6 + 4) \div 2$.

Ans : _____

17. Find the value of $\frac{4}{7} \div 6$.
Express your answer as a fraction in its simplest form.

Ans : _____

18. A bottle contains 1.25 litres of juice. Arshad poured 400 ml of juice from it into a glass. How many litres of juice was left in the bottle?

Ans: _____ ℓ

Sub-Total : [ ]

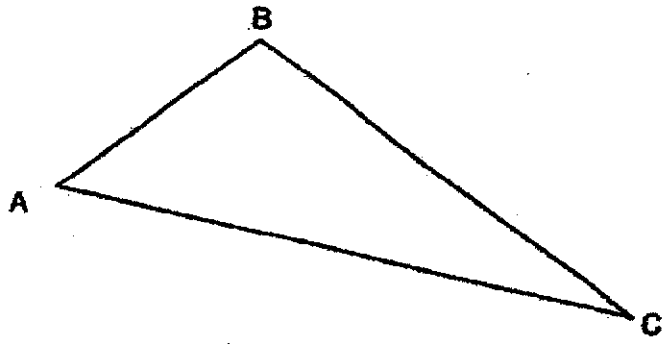
19. The timetable below shows the time a bus leaves the bus interchange for the airport.

Bus leaves interchange	Bus arrives at airport
8.20 a.m.	9.05 a.m.
8.40 a.m.	9.25 a.m.
9.15 a.m.	10.00 a.m.
9.45 a.m.	10.30 a.m.

Gracie wants to catch the bus that leaves at 8.20 a.m. but she is 45 minutes late. What is the earliest time Gracie can arrive at the airport by bus?

Ans: _____ a.m.

20. Measure the length BC in the triangle below.



Ans: _____ cm

Sub-Total : ☐

Questions **21** 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. (20 marks)

21. Write down all the common factors of 18 and 48

Ans : _____

22. Find the value of each of the expressions when $k = 7$.

(a) $2k - \frac{k}{8}$

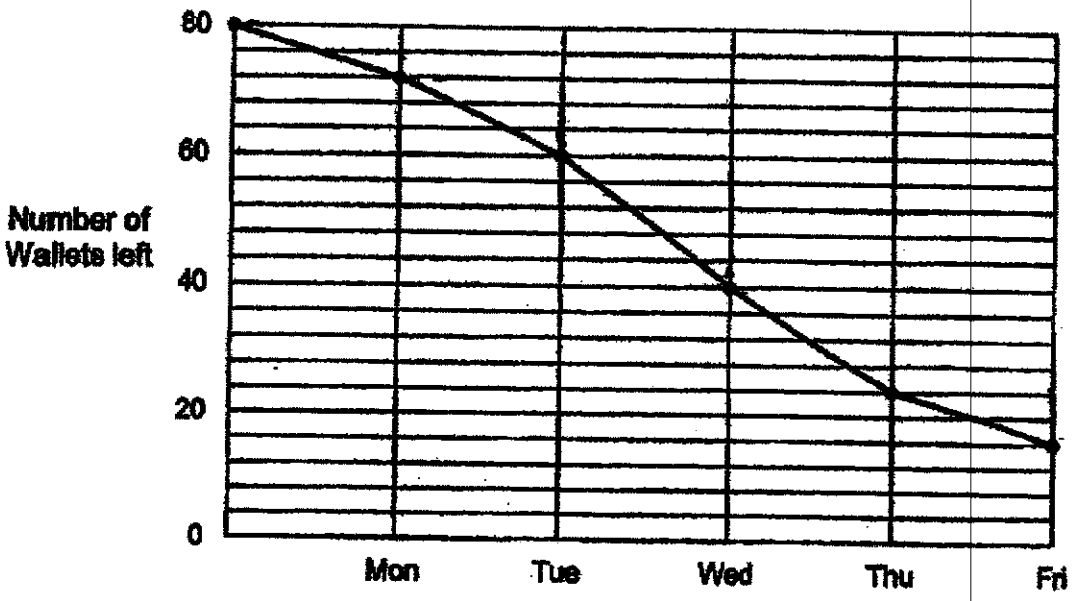
(b) $k - 13 + 2k$

Ans: (a)_____

(b)_____

Sub-Total :

23. Mr Siah had 80 wallets for sale. The graph below shows the number of wallets he had left at the end of each day from Monday to Friday.



(a) On which day did Mr Siah sell the greatest number of wallets?

(b) Find the difference between the number of wallets sold on Monday and Friday.

Ans: (a) _____

(b) _____

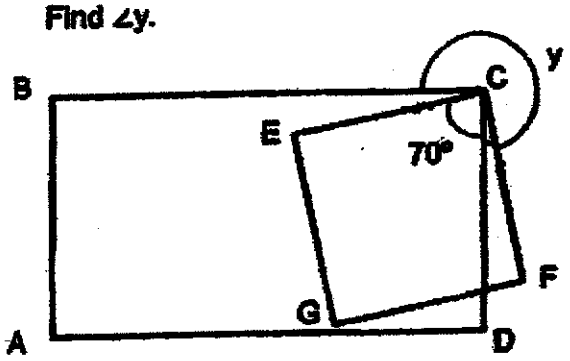
Sub-Total : [ ]

24. The table below shows the amount of money Tom saved from January to May. What was the percentage increase in his saving in May as compared to February?

Month	Jan	Feb	Mar	April	May
Amount of Savings ($)	54	48	50	36	60

Ans: _____%

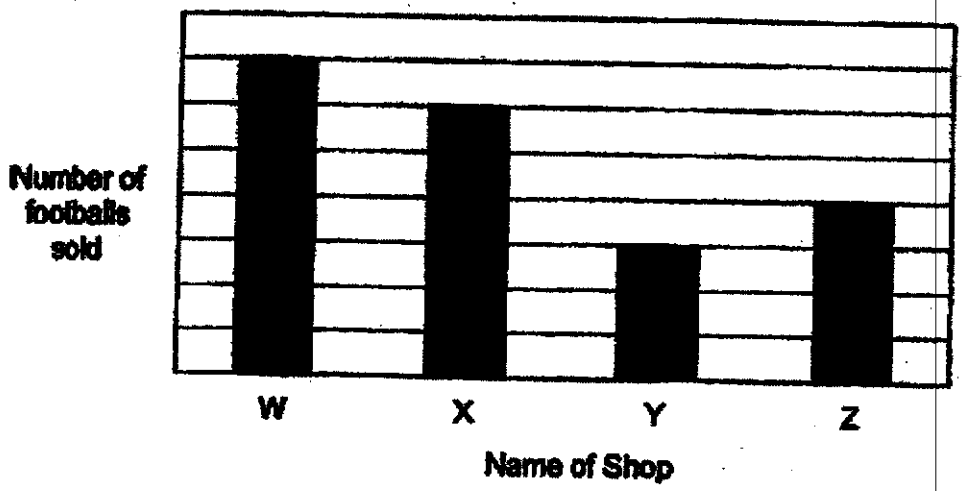
25. In the figure, ABCD is a rectangle, ECFG is a square. ∠ECD = 70°. Find ∠y.



Ans: _____°

Sub-Total :

26. The graph below shows the number of footballs sold by 4 shops in a week. The number of footballs sold is not shown on the scale.



The average number of footballs sold by the 4 shops was 40. How many footballs did Shop Y sell?

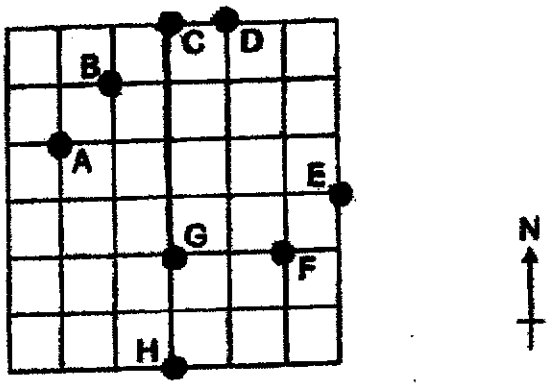
Ans : _____

27. James bought $\frac{4}{5}$ kg of flour. He used $\frac{1}{2}$ kg of it to bake some cakes and $\frac{1}{4}$ of it to bake some cookies. How much flour did he have left? Give your answer as a fraction in kilograms.

Ans: _____ kg

Sub-Total : [ ]

28. The square grid shows the positions of points A, B, C, D, E, F, G and H.



(a) Seo Jun walked directly from point F to point B in a straight line. In which direction did Seo Jun walk?

(b) Min Yang stood at one of the points facing G. After she turned 45° anti-clockwise, she faced E. At which point was Min Yang?

Ans: (a) _____

Ans: (b) Point : _____

29. May and Nancy have equal number of pieces of ribbon. They each have a mix of long and short ribbons. The length of each piece of short ribbon is 40 cm and each piece of long ribbon is 70 cm. May has 7 pieces of short ribbon and Nancy has 18 pieces of long ribbon. The total length of May's ribbons was 2.4 m longer than the total length of Nancy's ribbons. How many pieces of ribbon does May have?

Ans: _____

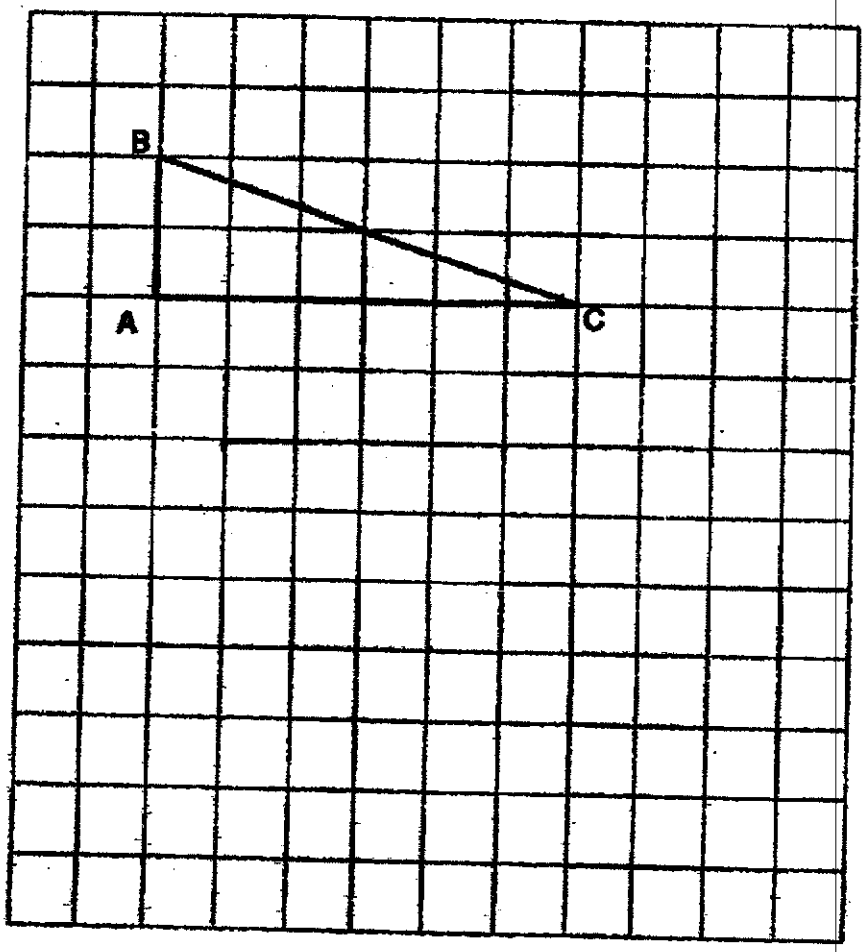
Sub-Total : ☐

30. In the square grid, a triangle ABC has been drawn.

(a) AC also forms one side of an isosceles triangle ACD in which ABC and ACD have the same area. Complete the drawing of triangle ACD in the square grid.

(b) In the square grid, draw a parallelogram with the same perimeter as triangle ABC.

Label the parallelogram, P.



End of Booklet B

Sub-Total :

Anglo-Chinese School (Junior)

PRELIMINARY EXAMINATION (2021)

PRIMARY 6

MATHEMATICS

PAPER 2

Friday **20 August 2021** **1 h 30 min**

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

INSTRUCTIONS TO PUPILS

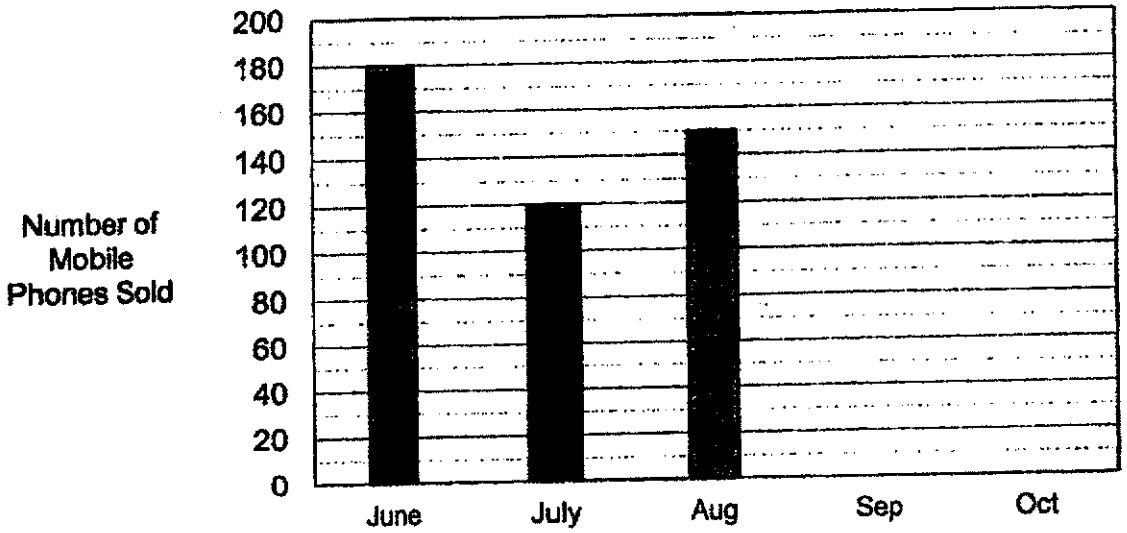
1 Do not turn over the pages until you are told to do so.
2 Follow all instructions carefully.
3 Answer ALL questions.
4 You can use a calculator for this paper.

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

This question paper consists of 15 printed pages (inclusive of cover page).

Questions **1** to **5** carry 2 marks each. Show your working clearly and write your answers in the spaces provided. For questions which require units, give your answers in the units stated. (10 marks)

1. The graph shows the number of mobile phones sold in a shop from June to October. The bars for the months of September and October have not been drawn.

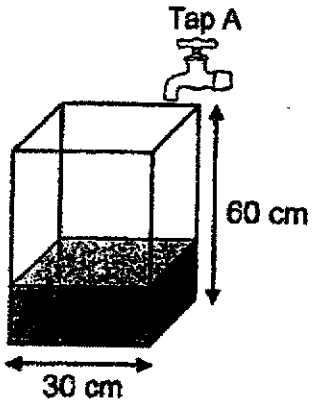


The average number of mobile phones sold from June to October was 160. Find the largest possible number of mobile phones sold in October given that the number of mobile phones sold each month is a 3-digit number.

Ans : _____

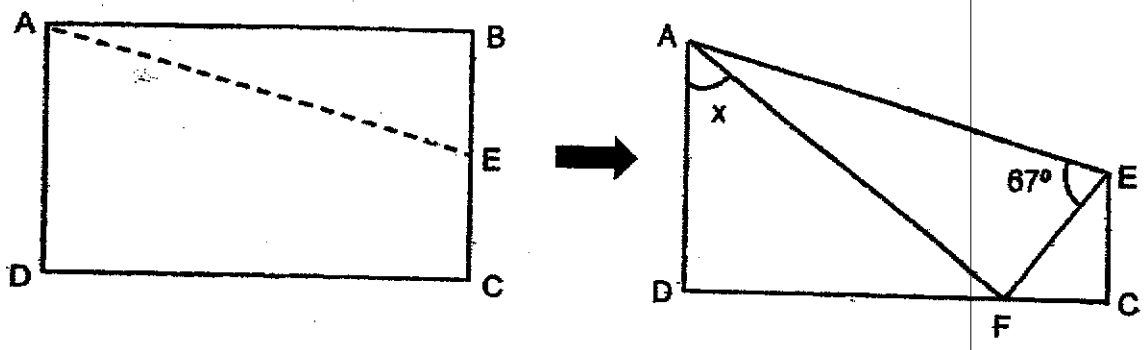
Sub-Total : ☐

2. A cubical tank with a square base was $\frac{1}{4}$ filled with water. Tap A can fill the tank with water at a rate of 3 litres per minute. How long does it take for the tank to be filled to the brim? Leave your answer in minutes.



Ans: _____ *min*

3. A rectangular piece of paper ABCD is folded along AE as shown below. ∠AEF = 67°. Find ∠x.



Ans: _____ °

Sub-Total :

4. Owen had some fifty-cent and one-dollar coins. $\frac{2}{7}$ of his coins were fifty-cents coins. His mother gave him 10 one-dollar coins and five-dollars' worth of fifty-cent coins. In the end, he had twice as many one-dollar coins as fifty-cent coins. How many coins did Owen have at first?

Ans: _____

5. At a sale, a shop was offering a 20% discount for a pair of shoes. Customers can purchase a second pair of shoes at 50% discount. Scott paid $156 for 2 identical pairs of shoes. How much did each pair of shoes cost before the discount?

Ans : $ _____

Sub-Total : [ ]

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)

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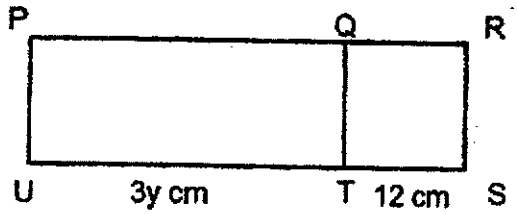
6. The figure is made up of rectangle PQTU and square QRST. UT = 3y cm, TS = 12 cm.



The perimeter of the figure PRSU is 84 cm. Find the value of y.

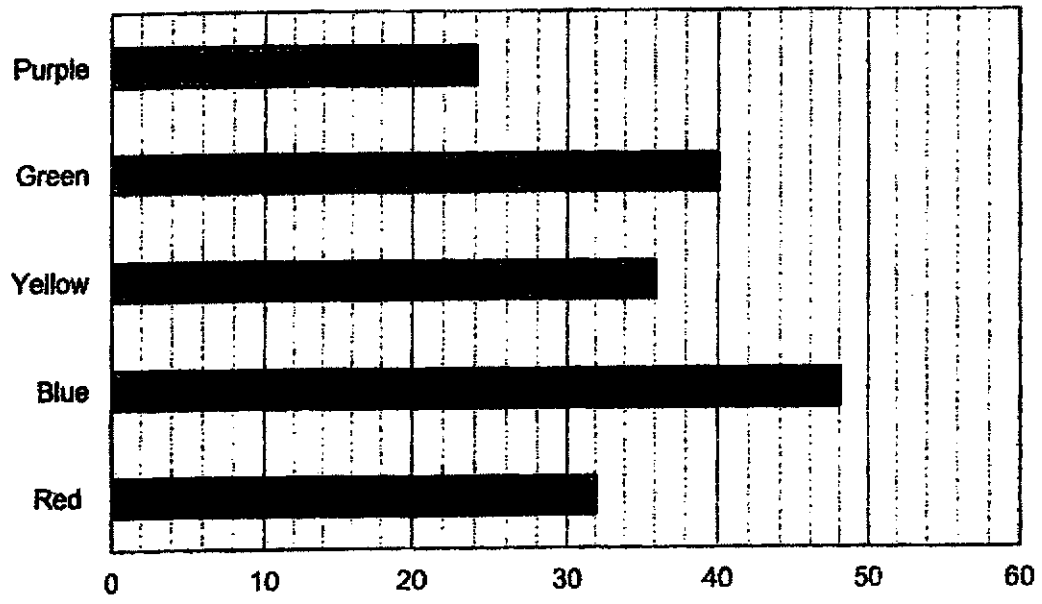
Ans: _____ *[3]*

7. Jonathan has some lollipops and he wants to put them into boxes. When he puts 4 lollipops into each box, he has 32 lollipops left over. When he puts 7 lollipops into each box, the last box had only 3 lollipops. How many lollipops does Jonathan have?

Ans : _____ *[3]*

Sub-Total : ☐

8. The graph below shows the number of different coloured whiteboard markers Mr Chen bought for his class.



(a) How many whiteboard markers did Mr Chen buy?

(b) Mr Chen gave away all his markers to 35 students in the class. Each student received either five or six whiteboard markers from Mr Chen. How many students received five whiteboard markers?

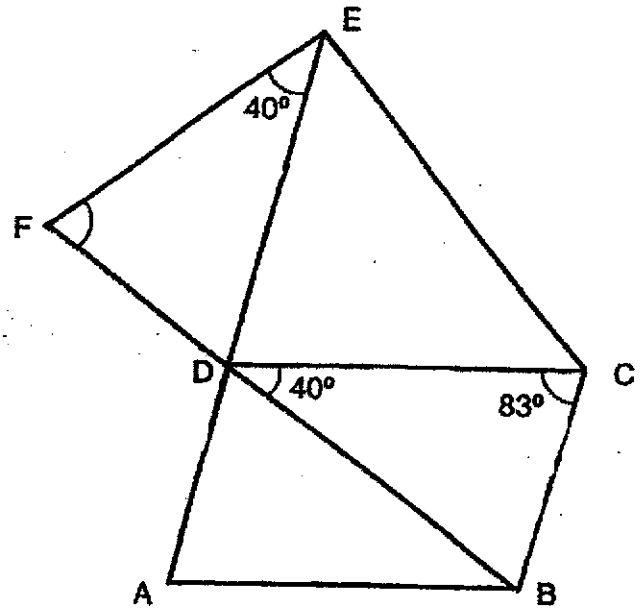
Ans : (a) _____ [1]

(b) _____ [2]

Sub-Total :

9. In the figure below, ABCD is a parallelogram and DEF is a triangle. ADE and FDB are straight lines. $\angle FED = 40°$, $\angle CDB = 40°$ and $\angle DCB = 83°$.

(a) Find $\angle DFE$.



Ans: (a)_____ [3]

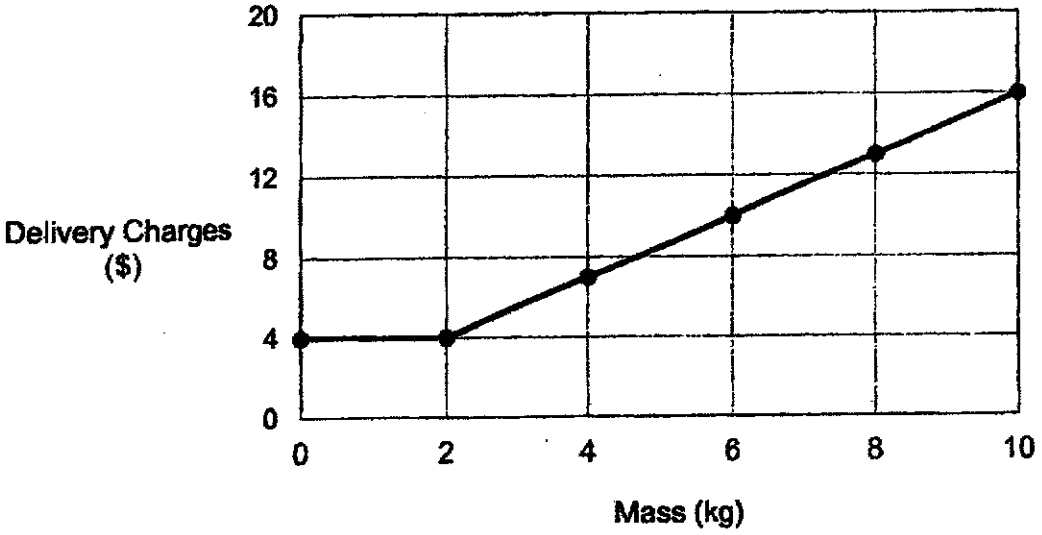
(b) Each of the statements below is either true, false or not possible to tell from the information given.
For each statement, put a tick (√) to indicate your answer.

Statement	True	False	Not possible to tell
FD = DA			
DECB is a trapezium.			

[2]

Sub-Total :

10. The graph below shows the charges of a delivery company for the first 10 kilograms of parcels.



(a) How much does the company charge for every additional kilogram of a parcel after the first 2 kilograms?

(b) Mark wants to send a parcel with a mass of 20 kilograms. How much must he pay for the delivery charges?

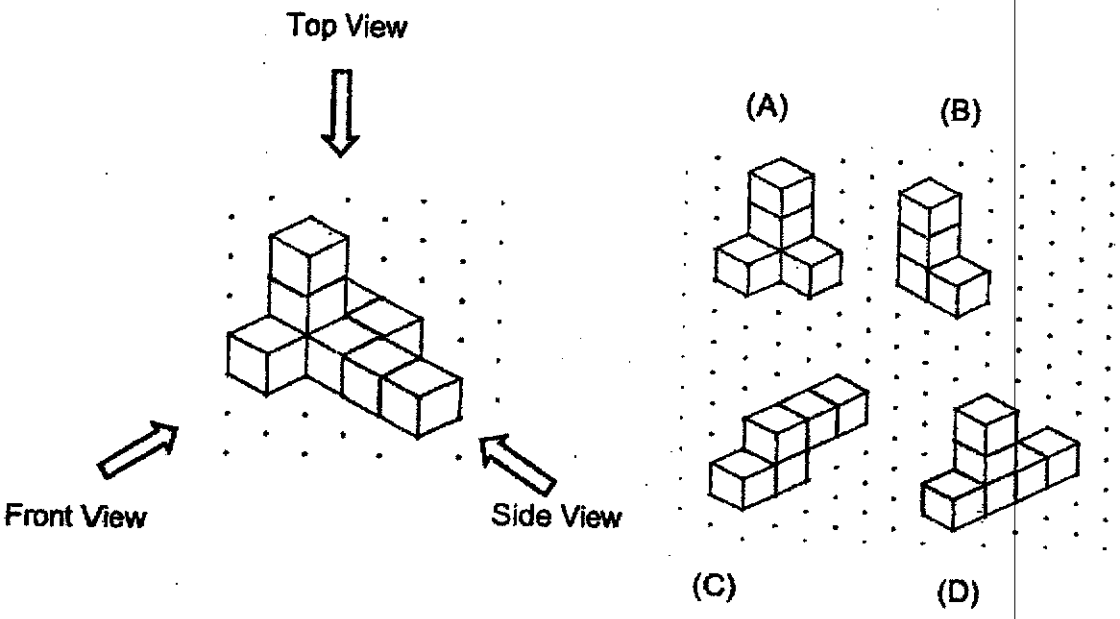
Ans : (a) _____ [2]

(b) _____ [2]

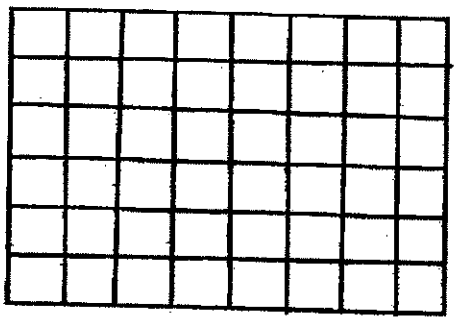
Sub-Total :

11. Chandra formed the solid shown in the figure using two puzzle pieces.

(a) Which of the following are the two puzzle pieces?



(b) Draw the top view of the solid on the grid below. [1]



(c) Chandra pasted one star sticker on each square face of the solid. How many star stickers did he use?

Ans: (a) _____ and _____ [1]

Ans: (c) _____ [1]

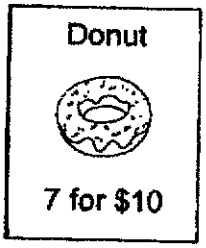
Sub-Total :

12. Machine A and Machine B were used to print the same number of cards each. Machine A took 60 minutes to print the cards. Machine B took 90 minutes to print the same number of cards. The faster machine printed 8 more cards per minute than the slower one. What was the total number of cards printed by the two machines?

Ans: _____ [3]

Sub-Total :

13. At a bakery, muffins and donuts were sold at the prices shown below.



Amy had some money. She spent $\frac{1}{2}$ of her money to buy some donuts and the remaining of her money on some muffins. She bought 54 more donuts than muffins. How much money did Amy have at first?

Ans: _____ [4]

Sub-Total :

14. Hansel and Sherman had some blue and green stickers. $\frac{3}{5}$ of Hansel's stickers were blue while $\frac{2}{3}$ of Sherman's stickers were blue. Hansel gave $\frac{3}{4}$ of his blue stickers to Sherman. In the end, $\frac{7}{10}$ of Sherman's stickers were blue and Hansel had 165 stickers left.

(a) How many blue stickers did Hansel give Sherman?

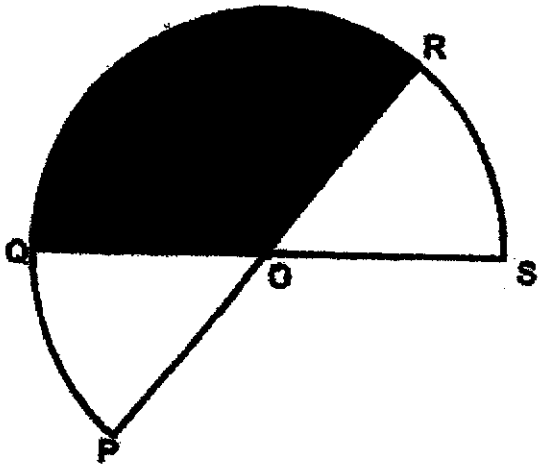
(b) How many stickers did Sherman have in the end?

Ans : (a) _____ [2]

(b) _____ [2]

Sub-Total : [ ]

15. OPQRS is part of a circle of diameter 40 cm. OPQR and OQRS are semi-circles. The area of the shaded part OQR is 420 cm^2 and the perimeter of the shaded part OQR is 78 cm.



(a) Find the area of the figure OPQRS.

(b) Find the perimeter of the figure OPQRS.

Take $\pi = 3.14$.

Ans: (a) _____ [2]

(b) _____ [2]

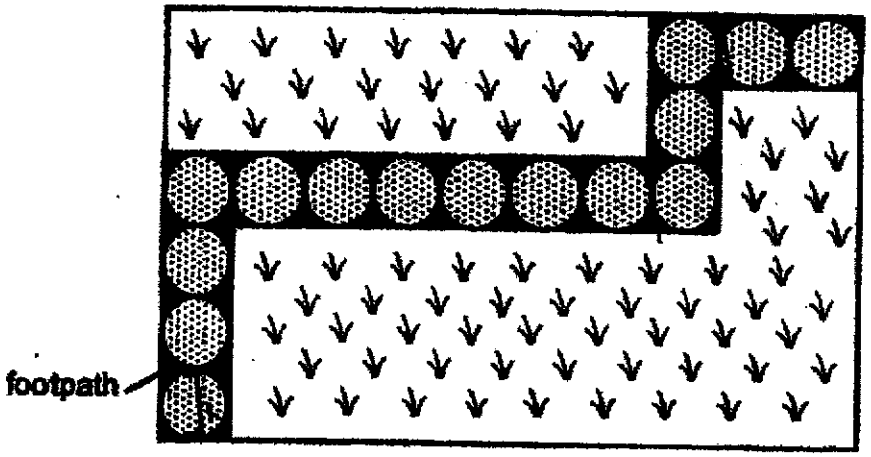
Sub-Total :

16. The ratio of the number of marbles Ryan had to the number of marbles Audrey had at first was 2 : 7. After Ryan bought another 20 marbles and Audrey gave away 80 marbles, the ratio of the number of marbles Ryan had to the number of marbles Audrey had became 1 : 3. How many marbles did Audrey have at first?

Ans : _____ [4]

Sub-Total :

17. The figure below shows a rectangular field with a perimeter of 48 m. A footpath cuts through the field as shown below. The footpath is tiled with 15 identical circular concrete tiles. Each tile is in contact with the ones next to it.



(a) What is the diameter of each concrete circular tile?

(b) Find the area of the field not covered by the footpath.

Ans: (a) _____ [2]

(b) _____ [3]

End of Paper 2

Sub-Total :

ANSWER KEY

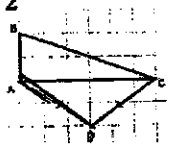
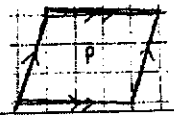
YEAR : 2021
LEVEL : PRIMARY 6
SCHOOL : ACS (J)
SUBJECT : MATHEMATICS
TERM : PRELIMINARY

BOOKLET A (PAPER 1)

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

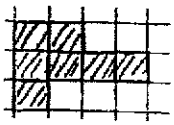
BOOKLET B (PAPER 1)

Q16	19	Q17	$\frac{2}{21}$
Q18	1.25L = 1250ml 1250ml – 400ml = 850ml = 0.85L	Q19	10.00 a.m
Q20	7cm	Q21	1 , 2 , 3 , 6
Q22	a) $2k - \frac{k}{8} = (7x2) - \frac{7}{8} = 14 - \frac{7}{8}$ $= \frac{14}{1} - \frac{7}{8} = \frac{112}{8} - \frac{7}{8} = \frac{105}{8} = 13\frac{1}{8}$ b) K – 13 + 2k = 7 – 13 + 14 = -6 + 14 = 8	Q23	a) Wed b) 8 – 8 = 0
Q24	60 – 48 = 12 $\frac{12}{48} = \frac{3}{12} = \frac{1}{4} = 25\%$	Q25	<BCE = 90°-70° = 20° <DCF = 90° - 70° = 20° <BCF = 70° + 20° + 20° = 110° <Y = 360° - 110° = 250°
Q26	20u = 160 $3u = \frac{160}{20} \times 3 = 8 \times 3 = 24$ footballs	Q27	$\frac{4}{5} \times \frac{1}{4} = \frac{1}{5}$ $\frac{4}{5}$ kg - $\frac{1}{5}$kg - $\frac{1}{2}$kg $\frac{8}{10}$ kg - $\frac{2}{10}$kg - $\frac{5}{10}$kg = $\frac{1}{10}$kg
Q28	a) North – west b) Point : C	Q29	40cm + (70u-490) =1260 + 40u – 720 (70u – 490) – (40u – 720) =30u – 230 1260 – 40 = 1220

			30u – 230 = 1220 30u = 1220 – 230 = 990 1u = $\frac{990}{30} = \frac{99}{30} = 33$
Q30	a) $\frac{1}{2}$ x 2 x 6 = 6cm2  b) 		

PAPER 2

Q1	160 X 5 = 800 800 – 180 – 120 – 150 = 350 350 – 100 = 250	Q2	30 X 30 X 60 = 54000cm3 = 54L 54 ÷ 4 = 13.5L 54 – 13.5 = 40.5 40.5 ÷ 3 = 13.5 min
Q3	<FEC = 180° - 67° x 2 = 46° <AEC = 67° + 46° = 113° <EAF = 180° - 90° - 67° = 23° <X = 90° – 23° x 2 = 44°	Q4	1u = 10 7u = 10 x 7 = 70
Q5	100 x 2 = 200 200-(20+50)=130 130% - 156 1% - 1.2 100% - $120	Q6	84 – 12 x 4 = 36 6y = 36 1y = 36 ÷ 6 = 6
Q7	7 – 3 = 4 32 + 4 = 36 36 ÷ 3 = 12 12 x 4 = 48 48 + 32 = 80	Q8	a) 24 + 40 + 36 + 48 + 32 = 180 b) 120 ÷ 6 = 20 180 – 120 = 60 60 ÷ 5 = 12 20 + 12 = 32 150 ÷ 6 = 25 30 ÷ 5 = 6 ANS : 30 students
Q9	a) <BDA = 180° - 40° - 83° = 57° <EDC = 180° - 57° - 40° = 83° <EDF = 180° - 40° - 83° =57°	Q10	a) 10kg – 2kg = 8kg $16 - $4 = $12 $12 ÷ 8 = $1.50 b) 20 – 2 = 18 18 x $1.50 = $27 $27 + $4 = $31

	<DFE = 180° - 57° - 40° =83° b) FD = DA -Not Possible to tell DECB is a trapezium – TRUE		
Q11	a) B and C b)  c) 5 + 4 + 3 + 4 + 4 + 5 + 4 + 5 + 2 = 36	Q12	A : 1min – 8 move 60min – 480 move 90min – 60min = 30min B : 30 min – 480 1min – 16 90min – 1440 1440 x 2 = 2880
Q13	10 x 6 = 60 3 x 10 = 30 7 x 6 = 42 42 – 30 = 12 6 x 20 = 120 10 x 12 = 120 3 x 20 = 60 7 x 12 = 84 84 – 60 = 24 270 x 2 = $540	Q14	a) 10 – 9 = 1 1p = 135 b) 10p = 135 x 10 = 1350
Q15	a) The area of OPQRS is 836cm2 b) The perimeter of OPQRS is 127.6cm	Q16	1u = 3 x 20 + 80 = 140 7u = 140 x 7 = 980
Q17	a) 10 x 2 = 20 6 x 2 = 12 20 + 12 = 32 32u = 48 1u = 48 ÷ 32 = 1.5m b) 1.5 x 1.5 = 2.25 15 x 2.25 = 33.75 10u = 1.5 x 10 = 15 6u = 1.5 x 6 = 9 9 x 15 = 135 135 – 33.75 = 101.25cm2		

END