SCHOOL : AITONG PRIMARY SCHOOL
LEVEL : PRIMARY 6
SUBJECT : MATH
TERM : 2020 PRELIM

PAPER 1 BOOKLET A

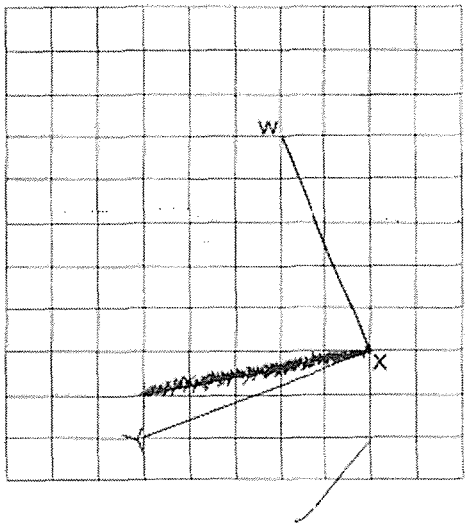
Q 1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
4	**4**	**3**	**4**	**2**	**2**	**1**	**1**	**2**	**1**

Q 11	Q12	Q13	Q14	Q15
1	**2**	**4**	**2**	**3**

PAPER 1 BOOKLET B

Q16) 32.82

Q17)



Q18) **6 + 3y + 5 – y**

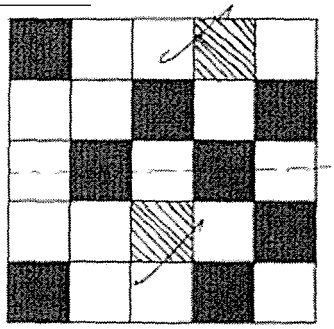
= 6 + 21 + 5 – 7

= 27 + 5 – 7

= 32 – 7

= 25

Q19)



Q20) **PU**

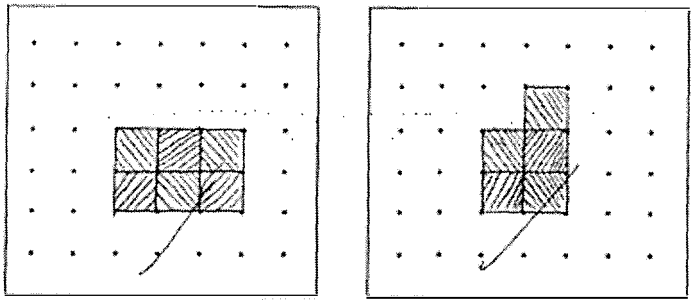
Q21) **2.5h**

Q22) **180° – 93° – 50° – 50°**
= 130° – 93°
= 37°

Q23) **a)20**
b) ¼

Q24) **23**

Q25)



Top View Side View

Q26) **3**

Q27) **3 : 4**

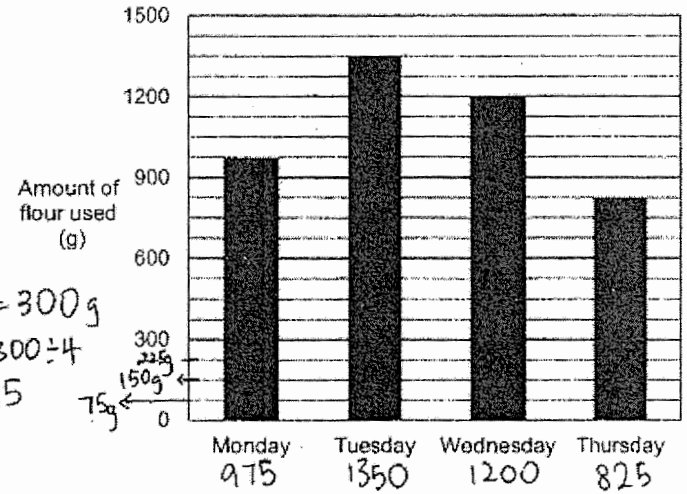
Q28) **a)False**
b)True

Q29)	**a) 18** **b)3**
Q30)	**253**

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)

Do not write in this space

1 The bar graph below represents the amount of flour Mrs Tang used from Monday to Thursday.



4 gaps = 300 g
gap = 300 ÷ 4
= 75

225 g
150 g
75 g

Monday 975
Tuesday 1350
Wednesday 1200
Thursday 825

What is the average amount of flour Mrs Tang used per day?

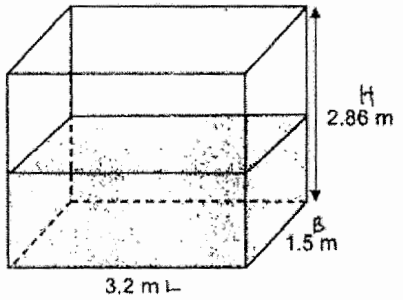
Total = 975 + 1350 + 1200 + 825
= 4350

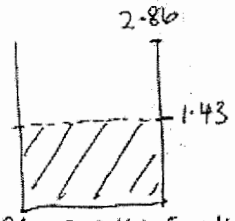
Ave = 4350 ÷ 4
= 1087.5

Ans: 1087.5 g

Do not write in this space

2 James filled half a rectangular tank measuring 3.2 m by 1.5 m by 2.86 m with water. Find the volume of water in the tank.
Give your answer correct to the nearest cubic metre.



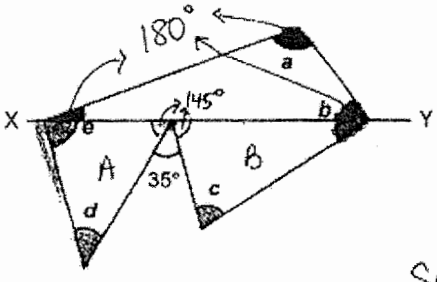


BA = 3·2 × 1·5 = 4·8

Vol = BA × H
= 4·8 × 1·43
= 6·864
≈ 7

Ans: 7 m³

3 In the figure, XY is a straight line.
Find the sum of ∠a, ∠b, ∠c, ∠d and ∠e.



180° − 35°
= 145°

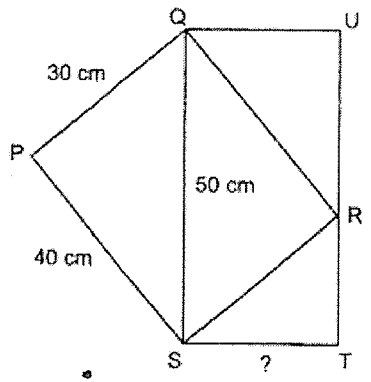
ΔA + ΔB
= 180° + 180°
= 360°
= 360° − 145°
= 215°

Sum = 180° + 215°
= 395°

Ans: 395 °

Do not write in this space

4 In the figure below, PQRS and QUTS are rectangles.
PQ = 30 cm, PS = 40 cm and QS = 50 cm.
Find the length of ST.



*Note
Area
ΔQUT + ΔSRT
= ΔQRS

ΔQRS = (30 × 40) ÷ 2
= 600

Rect QUTS = 600 × 2
= 1200

ST = 1200 ÷ 50
= 24

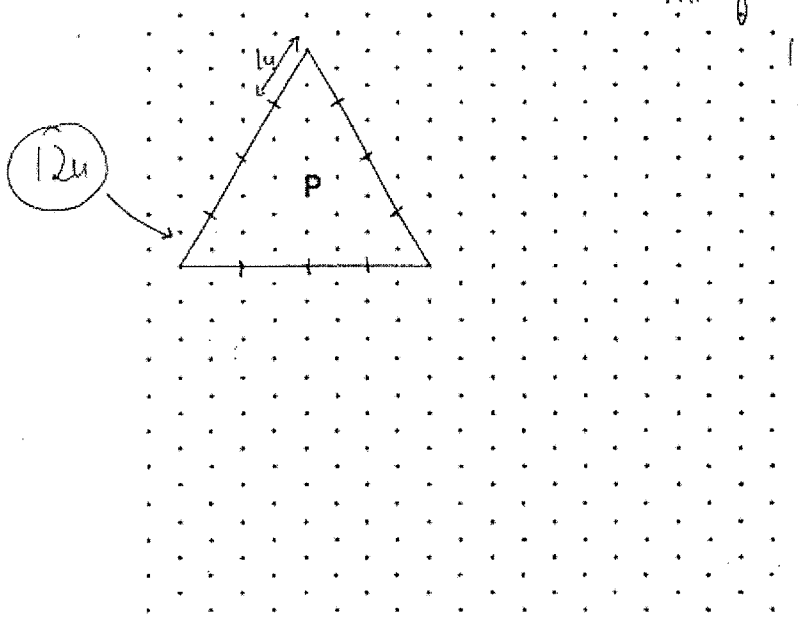
Ans: 24 cm

Do not write in this space

5 The figure shows an equilateral triangle, P.

By joining dots on the grid with straight lines, draw a rhombus with the same perimeter as P.

All equal sides

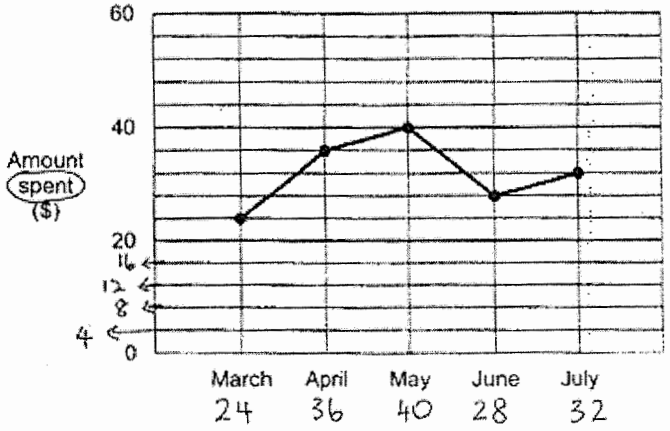


12u ÷ 4
= 3u

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 bracket [ ] at the end of each question or part-question. For questions which require units, give your answers in the units stated. (45 marks)

Do not write in this space

6 Kumar receives the same amount of pocket money from his father every month from March to July. He spent some of his pocket money and saved the rest. The line graph below shows the amount of pocket money Kumar spent from March to July.



(a) Kumar saved $14 in April. How much pocket money does he receive from his father each month?

(b) What is the percentage increase in the amount of money Kumar saved from May to June?

Saved + Spent = Pocket $

14 + 36 = 50 (a)

May (100%)

Saved = 50 − 40

= 10

June

Saved = 50 − 28

= 22

↑ 22 − 10

= 12

% ↑ = $\frac{12}{10} \times \frac{100}{1}$ = 120 (b)

Ans: (a) $50 [1]

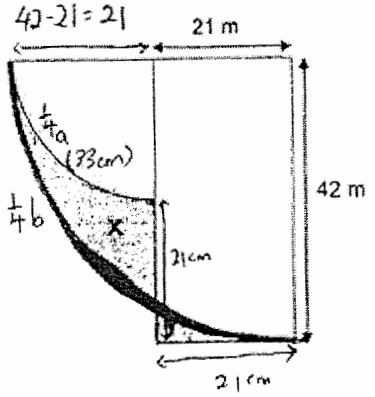
(b) 120% [2]

5

7 The figure is made up of two quarter circles and a rectangle overlapping one another. The radius of the larger quarter circle is the same as the length of the rectangle. The length of the rectangle is 42 m and its breadth is 21 m. Find the sum of the perimeters of the two shaded parts X and Y.

HL → L → Add ✓

Take $\pi = \frac{22}{7}$.



$\frac{1}{4}$ a (D = 21 × 2 = 42)

$\frac{1}{4} \times \pi \times D$

$= \frac{1}{4} \times \frac{22}{7} \times \frac{42}{1}$

= 33

$\frac{1}{4}$ b

D = 42 × 2 = 84

$\frac{1}{4} \times \pi \times D$

$= \frac{1}{4} \times \frac{22}{7} \times \frac{84}{1}$

= 66

P = 33 + 66 + 21 + 21

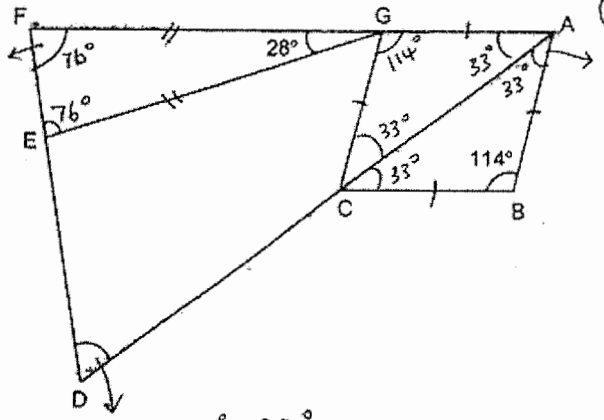
= 141

Ans: 141 m [3]

Do not write in this space

Do not write in this space

8 In the figure below, ABCG is a rhombus. EFG and DAF are triangles. GE = GF. ∠EGF = 28° and ∠ABC = 114°. Find ∠CDE.



180° - 28° = 152°
152° ÷ 2 = 76°

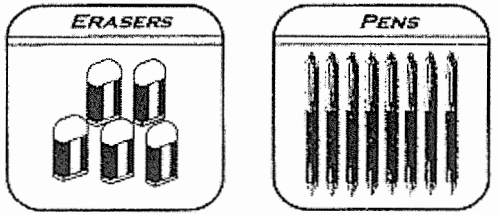
(1) 180 - 114 = 66
66 ÷ 2 = 33

180° - 76° - 33°
= 71°

Ans: 71° [3]

Do not write in this space

9 Bookshop A and Bookshop B sold erasers in packs of 5 and pens in packs of 8. The two bookshops sold a total of 1596 erasers and pens. Bookshop A sold twice as many packs of erasers as pens while Bookshop B sold twice as many packs of pens as erasers. The number of pens sold in both bookshops was the same. How many packs of erasers did both bookshops sell altogether?



SHOP A

	E	P
Qty	2u	1u
Unit Value	5	8
Total Value	10u	8u
	×2	×2
	20p	16p

SHOP B

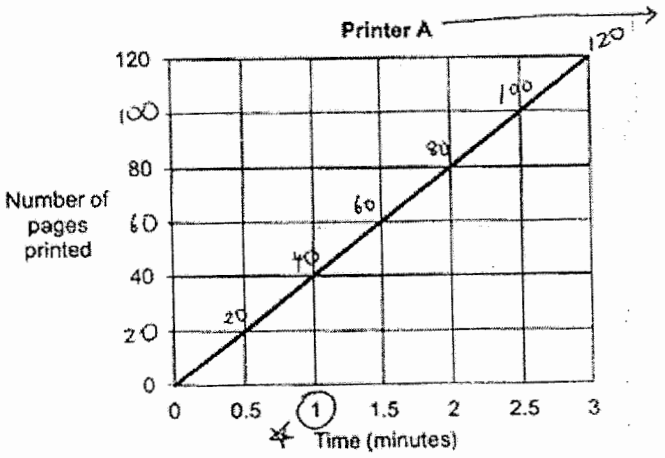
	E	P
Qty	1p	2p
Unit Value	5	8
Total Value	5p	16p

Same.

20p + 16p + 5p + 16p = 57p
57p = 1596
1p = 1596 ÷ 57 = 28
20p + 5p
25p = 28 × 25 = 700 (erasers)
Packs = 700 ÷ 5 = 140

Ans: 140 [3]

10 Mr Tan used two different printers for a printing job. The graph below shows the number of pages printed by Printer A in a given period of time.



1 min ⇓ 40 pages

Mr Tan started printing on both printers at 10 30. He turned off Printer B at 10 45. Printer A was turned off at 10 48. He printed 1890 pages altogether. Printer B printed an equal number of pages every minute. How many pages did Printer B print in one minute?

Printer A
1 min = 40
18 min = 40 × 18 = 720

1030 — 1045 — 1048

Printer B
15 min = 1890 − 720
= 1170
1 min = 1170 ÷ 15
= 78

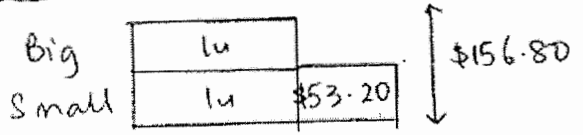
Total 1890 pages

Ans: 78 [3]

11 Ben earned $2.50 for delivering a small parcel and earned more for delivering a big parcel. He delivered 3 times as many small parcels as big parcels and earned a total of $156.80. He earned $53.20 less for delivering all the big parcels than all the small parcels. How many big parcels did Ben deliver?

unit value. big. model. Qty. Value.

Total Value



2u = 156.80 − 53.20
= 103.60
1u = 103.60 ÷ 2 = 51.80 (BIG)
Small = 51.80 + 53.20 = 105

	Small	Big
Qty	3u	1u
Unit	2.50	2.50 + 1p
Total	7.50u	2.50u + 1up

7.50u = $105
1u = 105 ÷ 7.50
= 14

Ans: 14 [3]

Do not write in this space

12 Mrs Tan bought $\frac{4}{5}$ as many pears as apples and $\frac{2}{5}$ as many oranges as apples. She paid a total of $150 for all the fruits. The ratio of the amount of money she spent on the pears to the amount she spent on the apples was 2 : 3. The ratio of the amount of money she spent on the pears to the amount of money she spent on the oranges was 1 : 5. Each apple cost $0.50. Find the total number of fruits Mrs Tan bought.

Qty

P : A : O

4 : 5

5 : 2

4 : 5 : 2

Value

P : A : O

2 : 3

1×2 : 5×2

2 : 3 : 10

	P	A	O	Total
Qty	4u	5u	2u	11u
Unit Value		50¢		
Total Value	2p	(250u) 3p	10p	$150

3000¢

15p = $150

1p = $150 ÷ 15 = $10

3p = $10 × 3 = $30 (Apples)

$30 = 3000¢

1.

250u = 3000¢

1u = 3000 ÷ 250 = 12

11u = 12 × 11 = 132

Ans: 132 [4]

Do not write in this space

13 Figure 1 shows two identical large semicircles and two identical small semicircles overlapping within a square tile. The length of the square tile is 40 cm. The diameter of the small semicircle is 20 cm.

BIG

D = 40 R = 20

π × R × R

= 3.14 × 20 × 20

= 1256

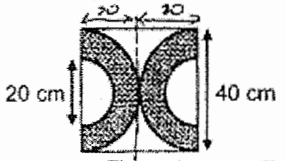


Figure 1

Small D = 20 R = 10

3.14 × 10 × 10 = 314

PLAN: BIG circle − Small circle

Shaded = 1256 − 314

= 942 (a)

(a) What is the area of the shaded parts within each tile?

(b) Figure 2 shows part of a path completely covered with such tiles. The path is 48 m long and 40 cm wide. Find the area of the unshaded path.

Take π = 3.14.

×100

48 m = 4800 cm.

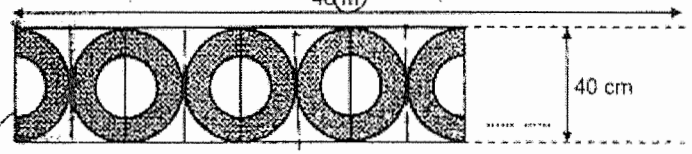


Figure 2

shaded = 942 cm² ÷ 2 = 471 cm²

Rect = 20 × 40 = 800

Unshaded = 800 − 471 = 329

} 1 RECT

20 cm = 1 Rect

4800 cm = 480¢ ÷ 2¢ = 240 (Rect)

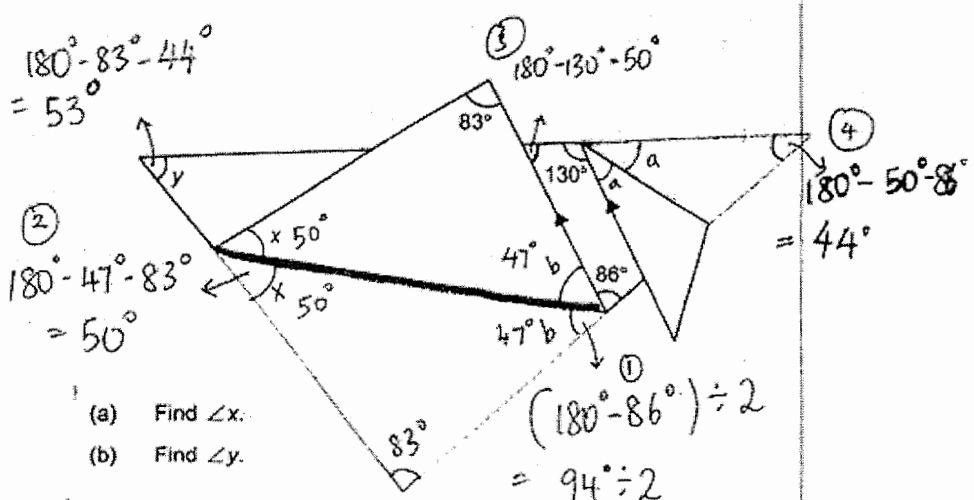
240 × 329 = 78960

Ans: (a) 942 cm² [1]

(b) 78960 cm² [3]

unfold + draw

14 Jane folded two corners of a triangular piece of paper as shown in the figure below.



(a) Find ∠x.

(b) Find ∠y.

Do not write in this space

Ans: (a) 50° [2]

(b) 53° [3]

Qty

15 At a paint shop, there were some identical pails. 60% of the pails were completely filled with paint. 32% of the pails were $\frac{1}{3}$ filled with paint. The remaining 20 pails were empty. The total amount of paint in the pails was 1590 ℓ.

Value

(a) How many pails were completely filled with paint?

(b) What was the amount of paint in one full pail? → complete

Do not write in this space

	Complete (150 pails)	$\frac{1}{3}$ filled	Empty
Qty (P)	60u	32u	8u → 20 pails
Unit Value	3p	1p	0
Total Value	180up	52up	0

1590 ℓ

8u = 20

1u = $\frac{20}{8}$

60u = $\frac{20}{8} \times \frac{60}{1}$ = 150 (a)

180up + 32up = 212up

212up = 1590

1up = 1590 ÷ 212

= 7.5

180up = 7.5 × 180 = 1350

150 pails = 1350 ℓ

1 pail = 1350 ÷ 150

= 9

Ans: (a) 150 [2]

(b) 9 ℓ [2]

16 Roger took part in a shooting game. He had to collect points by shooting gold and silver stars. He scored 8 points for each gold star shot and 3 points for each silver star shot.
At the end of the game, he scored 730 points less from shooting silver stars than gold stars. Roger shot 35 fewer silver stars than gold stars.
How many stars did Roger shoot altogether?

Do not write in this space

unit value

Total value

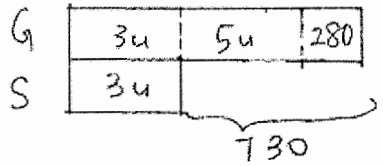
Qty

1 Gold	1 Silver
☆	☆
8 points	3 points

	Gold	Silver	Total
Qty	1u + 35	1u	2u + 35
Unit Value (points)	8	3	= 2 × 90 + 35
Total Value (points)	8u + 280	3u	= 215 (Ans)

diff = 730

Points



5u = 730 − 280
= 450
1u = 450 ÷ 5
= 90

Ans: 215 [5]

17 Ken had 2 boxes of beads. Box A had 60 more beads than Box B at first. Ken then moved $\frac{4}{5}$ of the beads from Box A to Box B.

Next, he moved $\frac{2}{5}$ of the beads from Box B back into Box A.

Ken then added another 87 beads to Box A. In the end, the number of beads in Box A was twice the number it contained at first.

(a) How many beads from Box B were moved back into Box A?

(b) How many beads were there in Box A in the end?

Do not write in this space

4u + 60 ×2 → 8u + 120

A	B
1u + 60	1u
4u + 60 − 1u − 15	4u + 1u + 15
3u + 45 + 2u + 6	5u + 15 − 2u − 6
5u + 51 + 87	3u + 9
5u + 138	3u + 9

5u + 138 = 8u + 120
−5u −5u
138 − 120 = 18 = 3u
1u = 6

2u + 6 = 2 × 6 + 6
= 18 (a)

5u + 138 = (5 × 6) + 138
= 168

Ans: (a) 18 [3]

(b) 168 [2]

END OF PAPER
CHECK YOUR WORK CAREFULLY !