NAN HUA PRIMARY SCHOOL
SEMESTRAL ASSESSMENT 1 – 2018
PRIMARY 6

MATHEMATICS
PAPER 1
(BOOKLET A)

Total Time for Booklets A and B: 1 hour

INSTRUCTIONS TO CANDIDATES

1. Write your name and index number in the space provided.
2. Do not turn over the page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Shade your answers in the Optical Answer Sheet (OAS) provided for Questions 1-15.
6. The use of calculators is **NOT** allowed.

Name : _____ ( )

Class : 6 _____

Date : 8 May 2018 **Parent's Signature :** _____

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Section A (20 marks)

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 and shade your answer (1, 2, 3 or 4) on the Optical Answer Sheet.

---

1. What is the value of 82 x 300?

   (1) 16 000
   (2) 24 000
   (3) 24 600
   (4) 27 600

2. How many thousands make 5 630 000?

   (1) 563
   (2) 5 630
   (3) 56 300
   (4) 563 000

3. What does the digit 7 in 6.475 stand for?

   (1) 7 ones
   (2) 7 tenths
   (3) 7 hundredths
   (4) 7 thousandths

4. Which of the following is likely to be the mass of a chicken egg?

   (1) 8 kg
   (2) 800 g
   (3) 80 g
   (4) 8 g

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5. Simplify $28 + 13y - y + 5y$.

(1) $28 + 7y$

(2) $28 + 17y$

(3) $41 + 5y$

(4) $45y$

6 Which of the following has the same value as 5.14?

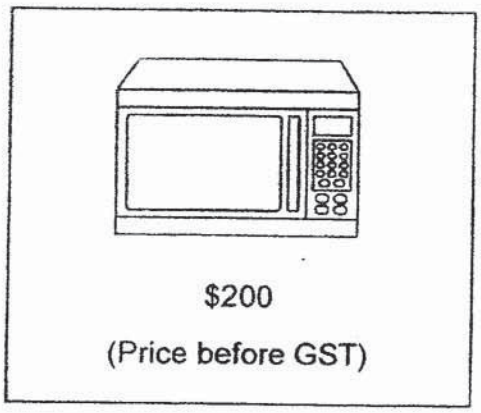
(1) $5 + \frac{1}{10} + \frac{4}{100}$

(2) $5 + \frac{14}{10}$

(3) $5 + \frac{14}{1\,000}$

(4) $5 + \frac{1}{10} + \frac{4}{1\,000}$

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



$200

(Price before GST)

(1) $186

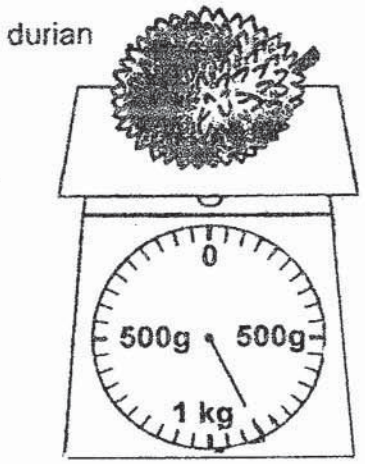
(2) $193

(3) $207

(4) $214

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8. Look at the diagram below. What is the mass of the durian?



(1) 700 g

(2) 850 g

(3) 1 150 g

(4) 1 200 g.

9. Fandi paid $20 for 40 cards. How much did each card cost?

(1) 5¢

(2) 20¢

(3) 50¢

(4) $2

10. The table shows John's marks in his Mathematics tests.

Test	1	2	3
Marks	79	82	79

Find John's average marks.

(1) 79

(2) 80

(3) 81

(4) 82

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11. Which one of the following fractions is nearest to 1?

(1) $1\frac{1}{7}$

(2) $1\frac{1}{6}$

(3) $\frac{4}{5}$

(4) $\frac{3}{4}$

12. Uncle Bob mixes 3 litres of red paint with 1 litre of white paint to get 4 litres of pink paint. He uses a total of 36 litres of pink paint for a paint job. How much red paint does he use?

(1) 40 litres

(2) 27 litres

(3) 9 litres

(4) 4 litres

13. Amy's monthly salary was $4 200 last year. There is a 40% increase in her salary this year. What is her monthly salary this year?

(1) $1 680

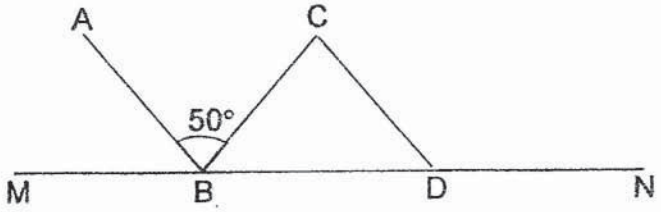
(2) $2 520

(3) $5 880

(4) $6 300

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14. In the figure, not drawn to scale, MN is a straight line, BC = DC and AB // CD. Find ∠ BDC.



(1) 40°

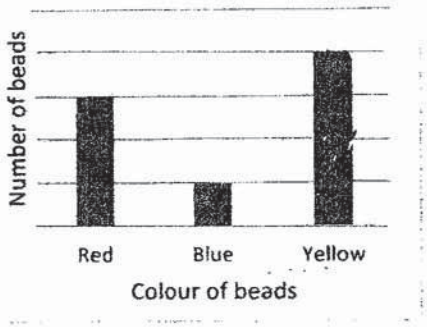
(2) 50°

(3) 65°

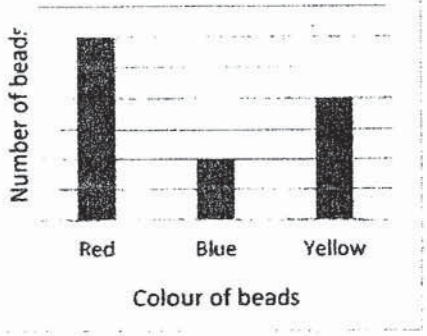
(4) 130°

15. The ratio of the number of red beads to the number of blue beads is 3 : 2.
The ratio of the number of red beads to the number of yellow beads is 1 : 2.
Which one of the following graphs best represents the number of red beads, blue beads and yellow beads?

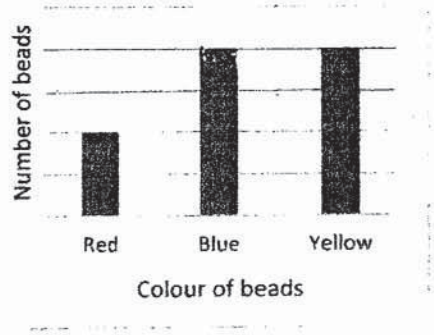
(1)



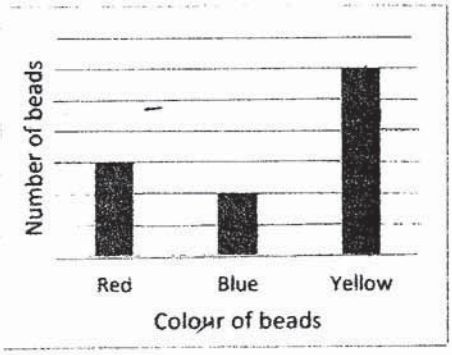
(2)



(3)



(4)



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NAN HUA PRIMARY SCHOOL
SEMESTRAL ASSESSMENT 1 – 2018
PRIMARY 6

MATHEMATICS
PAPER 1
(BOOKLET B)

Total Time for Booklets A and B: 1 hour

INSTRUCTIONS TO CANDIDATES

1. Write your name and index number in the space provided.
2. Do not turn over the page until you are told to do so.
3. Follow all instructions carefully.
4. Answer all questions.
5. Write your answers in this booklet.
6. The use of calculators is **NOT** allowed.

Marks Obtained

Paper 1	**Booklet A**		**/ 45**
	Booklet B		
Paper 2			**/ 55**
Total			**/ 100**

Name : _____ ( )

Class : 6_____

Date : 8 May 2018 **Parent's Signature :** _____

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Section B (25 marks)

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

16. Round 69 052 to the nearest hundred.

Ans: _____

17. Find the value of $2 \div \frac{4}{9}$.

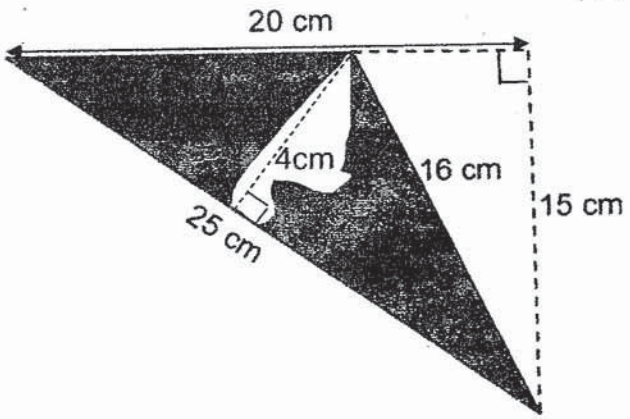
Give your answer as a mixed number in the simplest form.

Ans: _____

18. Find the value of $80.2 \div 5$.

Ans: _____

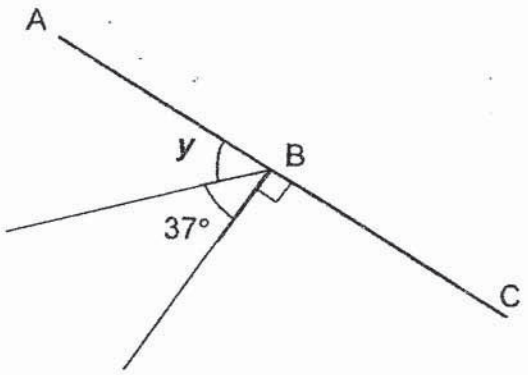
19. Find the area of the shaded triangle below.



Ans: _____ cm^2

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20. In the figure, ABC is a straight line. Find $\angle y$.



Ans: _____°

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Questions **21** 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.

---

21. Find the value of $3y - 5 + \frac{2y}{4}$ when $y = 4$.

Ans: _____

22. In a race, Diana walked at an average speed of 90 m/min for the first 20 minutes and walked at an average speed of 100 m/min for the next 30 minutes. What was her average walking speed for the race?

Ans: _____ m/min

23. There are 40 red stickers, 24 green stickers and 15 yellow stickers.

(a) Express the number of green stickers as a fraction of the number of red stickers in its simplest form.

(b) What is the ratio of the number of yellow stickers to the total number of stickers?

Ans: (a) _____

(b) _____

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24. Use all the digits 2, 1, 9 and 0 to form

(a) the smallest even number

(b) the number closest to 2 000

Ans: (a) _____

(b) _____

25. Mr Tan has $\frac{7}{8}$ kg of coffee powder. He packs the coffee powder into packets of $\frac{1}{4}$ kg each.

(a) How many such packets does he get?

(b) What is the mass of the remaining coffee powder? Give your answer as a fraction in the simplest form.

Ans: (a) _____

(b) _____kg

26. Liming had \$80. He bought 5 files and 2 pens. Each pen cost \$3k and each file cost \$$k$. Find the amount of money Liming had left in terms of k. Give your answer in the simplest form.

Ans: \$_____

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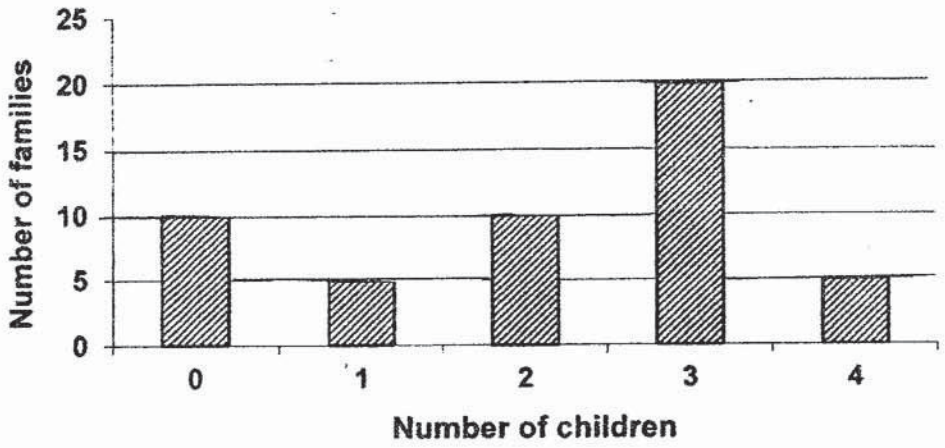
27. The table shows how much ABC Cleaning Company charges for a home cleaning job.

First 4 hours	$100
Every additional hour	$30

Auntie Lucy paid the company $250 for a cleaning job. How many hours of cleaning did she pay for?

Ans: _____ h

28. The bar graph below shows the number of children in the families living in a block of flats.

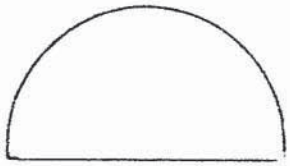


How many children are there altogether?

Ans: _____

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29. The figure below shows a semi-circle with diameter 14 cm.



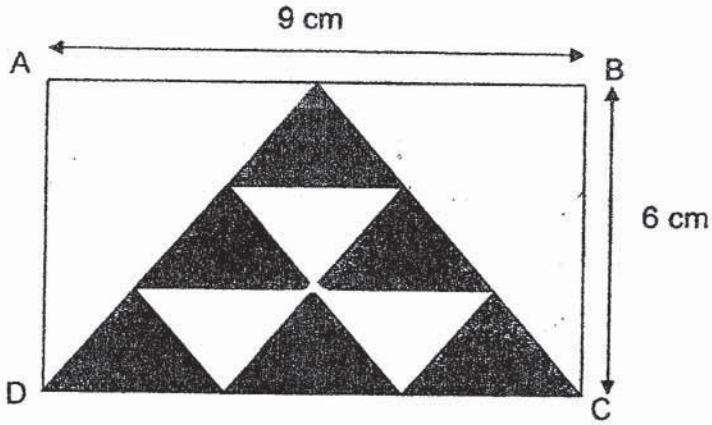
(a) Find the perimeter of the figure.

(b) Find the area of the figure. Take $\pi = \frac{22}{7}$

Ans: (a) _____ cm

(b) _____ cm^2

30. The figure below is not drawn to scale. ABCD is a rectangle. Find the area of the shaded triangles.



Ans: _____ cm^2

--- End of Paper 1 ---

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NAN HUA PRIMARY SCHOOL
SEMESTRAL ASSESSMENT 1 – 2018
PRIMARY 6

MATHEMATICS
Paper 2

Total Time for Paper 2: 1 hour 30 minutes

INSTRUCTION TO CANDIDATES

1. Write your name and index number in the space provided.
2. Do not turn over the page until you are told to do so.
3. Follow all instructions carefully
4. Answer all questions.
5. Write your answers in this booklet.
6. The use of an approved calculator is expected, where appropriate.

Marks Obtained

Total	Max Mark
	55

Name : _____ ( )

Class : 6_____

Date : 8 May 2018 Parent's Signature : _____

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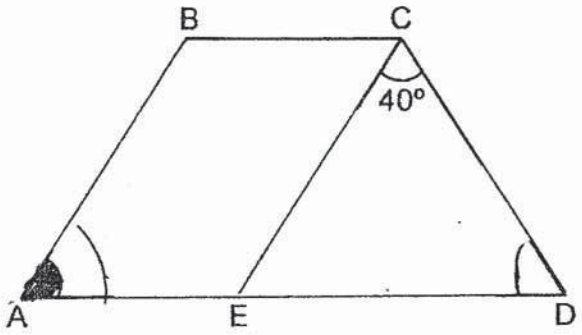
Paper 2 (55 marks)

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

---

1. The figure below is not drawn to scale. CD = CE and ABCE is a parallelogram.
AED is a straight line and ∠ DCE = 40°. Find ∠BAE.



Ans: _____ °

2. In the space below, draw a parallelogram ABCD in which AD = 6 cm and ∠ ABC = 140°. The line AB has been drawn for you.



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Do not write in this space

3. Mrs Lum prepared 6 ℓ of lemonade. She kept $\frac{1}{4}$ of the lemonade and filled up as many $\frac{3}{4}$ -ℓ bottle as she could with the remaining lemonade. How many such $\frac{3}{4}$ -ℓ bottles did she use?

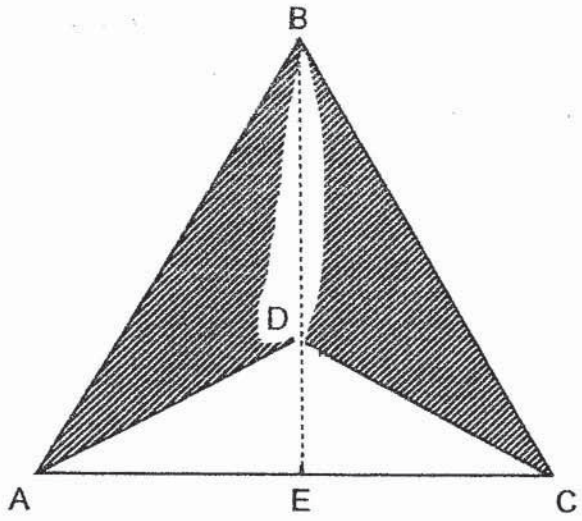
Ans: _____

4. Mr Chin baked 390 chocolate muffins and strawberry muffins. After selling $\frac{5}{6}$ of the chocolate muffins and $\frac{1}{3}$ of the strawberry muffins, he had the same number of chocolate muffins and strawberry muffins left. How many chocolate muffins did Mr Chin sell?

Ans: _____

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5. In the figure below, not drawn to scale, ABC and ADC are overlapping triangles. BE is three times the length of DE. The area of triangle ADC is 54 cm². What is the area of the shaded part?



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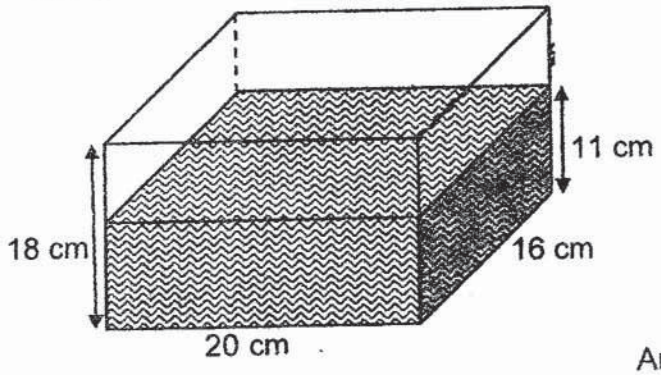
Ans: _____ cm²

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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)

Do not write in this space

6. A tank which measured 20 cm by 16 cm by 18 cm contained some water as shown in the figure below. The height of the water level in the tank was 11 cm. Christine poured 8 identical bottles of water into the tank to fill it completely. How much water did each bottle contain? Give your answer in mℓ.



Ans: _____ [3]

7. Ashlyn, Betty, Cynthia and Devi saved an average of $88. Ashlyn and Betty saved $90 and $75 respectively. Devi saved $15 less than Cynthia. How much did Cynthia save?

Ans: _____ [3]

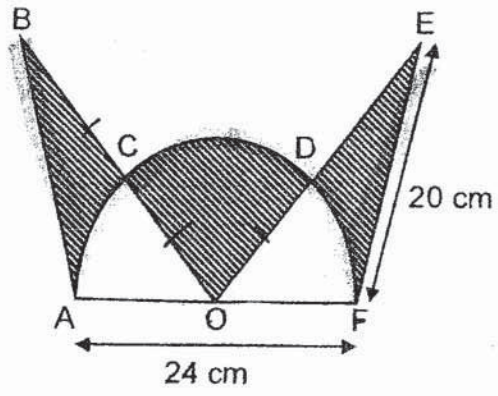
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8. At a museum, $\frac{1}{9}$ of the visitors were women. $\frac{3}{8}$ of the remaining visitors were men and the rest of the visitors were boys and girls. The number of girls was $\frac{1}{4}$ the number of boys. Given that there were 660 more boys than girls, what was the total number of visitors?

Do not write in this space

Ans: _____ [3]

9. The diagram below which is not drawn to scale is made up of a semicircle and 2 identical triangles ABO and FEO. Given that OC = CB and OD = DE, find the perimeter of the shaded parts. (Take π = 3.14)



Ans: _____ [3]

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10. Tom and Jake drove from Town X to Town Y. Tom started his journey at 9 a.m. and travelled at an average speed of 75 km/h. Jake started his journey half an hour later than Tom. At 12 noon, Jake overtook Tom. When Jake reached Town Y at 2 p.m., Tom was 30 km from Town Y. What was Jake's average speed for his whole journey?

Do not write in this space

Ans: _____ [3]

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11. Danny had a piece of circular paper of radius 7 cm. He folded along 2 sides of the 4 dotted lines as shown. Find the area of the unshaded part of the paper as shown in Figure 2. (Take $\pi = \frac{22}{7}$)

Do not write in this space

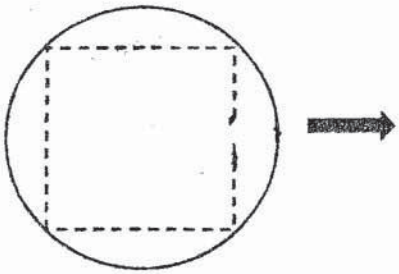


Figure 1

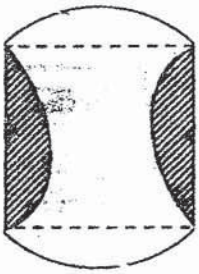


Figure 2

Ans _____[4]

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12. Kelvin had 90 more stamps than Nelson. Nelson gave $\frac{1}{5}$ of his stamps to Kelvin and Kelvin had three times as many stamps as Nelson. How many stamps did the two boys have altogether?

Do not write in this space

Ans: _____ [4]

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13. At a carnival, each adult ticket cost $25 while each child ticket cost $12. On Saturday, the number of adult tickets sold was 120 fewer than the number of child tickets. On Sunday, the number of adult tickets sold decreased by 10% while the number of child tickets sold increased by 30%. If a total of 816 tickets were sold on Sunday, how much money was collected on Saturday?

Do not write in this space

Ans: _____ [4]

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Do not write in this space

14. Roy, Stanley, Ted and Umar picked as many sticks as they could during a sports carnival. They were awarded 12 points for each red stick picked and 15 points for each blue stick picked. The table shows the number of sticks picked by three of the four children.

Player	Number of sticks picked		Total points earned
	Red	Blue	
Roy	20	14	450
Stanley	30	9	495
Ted	15	?	450

(a) Roy earned as many points as Ted. How many blue sticks did Ted pick?

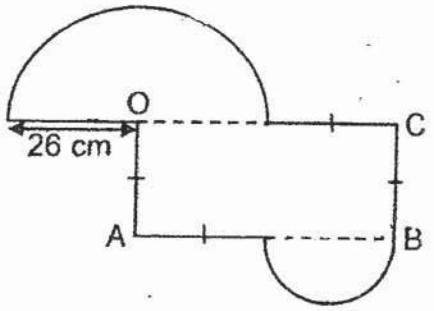
(b) Umar picked as many sticks as Stanley but earned 6 more points. How many blue sticks did Umar pick?

Ans: (a) _____[1]

(b) _____[3]

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15. The figure below which is not drawn to scale, is made up of 2 semi-circles and a rectangle. O is the centre of the semi-circle. OABC is a rectangle. Find the perimeter of the figure. (Take $\pi = 3.14$)



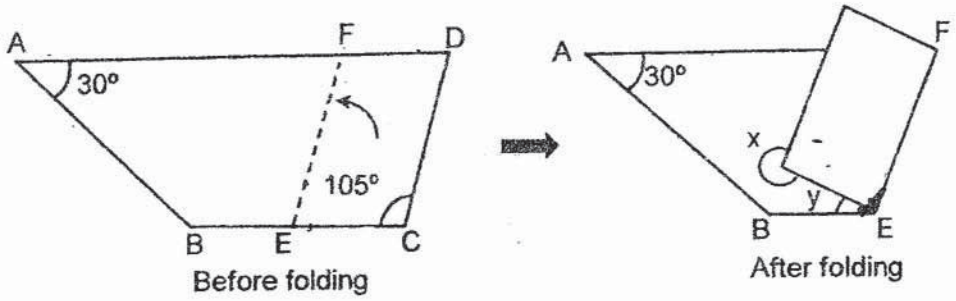
Do not write in this space

Ans: _____ [4]

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Do not write in this space

16. The following diagram which is not drawn to scale, shows a piece of paper ABCD in the shape of a trapezium. $\angle BAD = 30°$ and $\angle BCD = 105°$. The paper is folded along the line EF which is parallel to CD.



Before folding

After folding

(a) Find $\angle x$.

(b) Find $\angle y$.

Ans: (a) _____ [2]

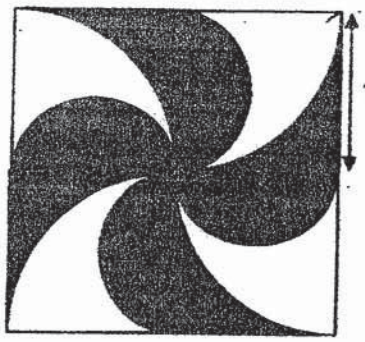
(b) _____ [3]

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17. The figure below, not drawn to scale, is made up of 4 identical squares, 4 semicircles and 4 quadrants. Find

(a) the total area of the shaded parts and
(b) the perimeter of the shaded parts.

(Take $\pi = \frac{22}{7}$)



Do not write in this space

Ans: (a) _____ [3]

(b) _____ [2]

----------End of Paper----------

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Answer Key & Worked Solutions

Nan Hua Paper

P6 Mathematics SA1 2018

Paper 1

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

Q16) 69100

Q17) $4\frac{1}{2}$

Q18) 16.04

Q19) 50 cm^2

Q20) 53 °

Q21) 9

Q22) 96 m/min

Q23)
a) $\frac{3}{5}$
b) 15.79

Q24)
a) 1092
b) 2019

Q25)
a) 3
b) $\frac{1}{8}$ kg

Q26)
$(80 – 11k)

Q27) 9 h

Q28) 105

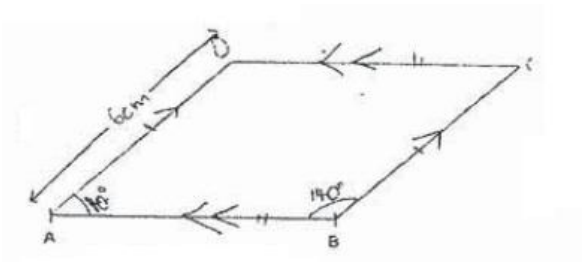
Q29)
a) 36 cm
b) 77 cm^2

Q30) 18 cm^2

Paper 2

Q1. ∠BAE = 70°

Q2.



Q3. $\frac{3}{4}$ x 6 = $4\frac{1}{2}$ (remaining lemonade)

$4\frac{1}{2} = \frac{9}{2}$

$\frac{9}{2} \div \frac{3}{4}$ = 6 bottles

Q4. 52 x 5 = 260 chocolate muffins

Q5. $(\frac{1}{2}$ x 18 x 18) – 54 = 108 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. Additional height = 18 – 11 = 7 cm

Additional volume of water = 20 x 16 x 7 = 2240 cm^3

Volume of each bottle = 2240 ÷ 8 = 280 cm^3 = 280 mℓ

Ans: 280 mℓ

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7. Total amount saved by 4 of them = 88 x 4 = $352

Amount saved by Cynthia and Devi = 352 – 90 – 75 = $187

Difference between Cynthia and Devi's savings = 15

Devi's savings = (187 – 15) ÷ 2 = $86

Cynthia's savings = 86 + 15 = $101

Ans: $101

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8. Number of men visitors → $\frac{3}{8} \times \frac{8}{9} = \frac{3}{9}$

Number of boys and girls → $\frac{8}{9} - \frac{3}{9} = \frac{5}{9}$

Number of boys → $\frac{4}{9}$

Number of girls → $\frac{1}{9}$

Difference between boys and girls → $\frac{3}{9}$ → 660

$\frac{1}{9}$ → 220

$\frac{9}{9}$ → 220 x 9 = 1980 visitors

Ans: 1980 visitors

---

9. Perimeter of semi-circle = $\frac{1}{2}$ x 3.14 x 24 = 37.68 cm

Radius = 12 cm

EO + EF = 12 + 12 + 20 = 44 cm

Perimeter of shaded part = 37.68 + 44 + 44 = 125.68 cm

Ans: 125.68 cm

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10. Distance from X to Y = 75 x 5 + 30 = 405 km

Time taken by Jake = 5 – 0.5 = 4.5 hr

Average Jake's speed = 405 ÷ 4.5 = 90 km/hr

Ans: 90 km/h

---

11. Area of circle = $\frac{22}{7}$ x 7 x 7= 154 cm^2

Area of square = 7 x 7 x 2 = 98 cm^2

Shaded area = $\frac{1}{2}$ x (154 – 98) = 28 cm^2

Unshaded area = 154 – 28 = 126 cm^2

Ans: 126 cm^2

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12. Let 4u = total number of stamps

At the end,

Number of stamps Kelvin had= 3u

Number of stamps Nelson had = u

At first,

Number of stamps Nelson had = $\frac{5}{4}$ u

Number of stamps Kelvin had = 3u - $\frac{1}{4}$ u = $\frac{11}{4}$ u

Difference = $\frac{11}{4}$ u - $\frac{5}{4}$ u = 2u = $\frac{6}{4}$ u = 90

u = $\frac{4}{6}$ x 90 = 60

Total number of stamps = 4u = 4 x 60 = 240

Ans: 240

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13. Let number of adult's ticket on Saturday = 10u
Number of children's ticket on Saturday = 10u + 120

On Sunday,
Number of adult tickets = 9u
Number of children tickets = 13 u + $\frac{130}{100}$ x 120 = 13u + 156

Total tickets on Sunday = 9u + 13u + 156 = 816
22u = 816 – 156 = 660
u = 660 ÷ 22 = 30

Children's ticket sales on Saturday = (10u + 120) 12 = 420 x 12=$5040

Adult ticket sales on Saturday = 10u x 25 = 300 x 25 = $7500

Total sales on Saturday = 5040 + 7500 = $12540

Ans: $12540

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14. a)

If Ted pick 15 red and 15 blue sticks, Total poinst = 15 x (12+ 15) =405

Excess points = 450 – 405 = 45

Extra blue sticks = 45 ÷ 15 = 3

Number of blue sticks Ted picked = 15 + 3 = 18

b)

Umar points = 495 + 6 = 501

If all 39 sticks are red sticks, total points = 39 x 12 = 468

Excess points = 501 – 468 = 33

Difference in points = 15 – 12 = 3

Number of blue sticks = 33 ÷ 3 = 11

Ans: (a) 18 blue sticks
(b) 11 blue sticks

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15. Perimeter of large semi-circle = 26 x π = 26π cm

Perimeter of small semi-circle = 13 x π = 13π cm

Perimeter of rectangle = 26 x 5 = 130 cm

Perimeter of figure = 26π + 13π + 130 = 39π + 130 = 252.46 cm

Ans: 252.46 cm

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16. a)
$\angle x = 360 - 105 = 255°$
b)
$\angle y = 105 - 75 = 30°$

Ans: (a) 255°

(b) 30°

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17. a)

Area of quadrant = $\frac{1}{4} \times \frac{22}{7} \times 14 \times 14 = 154 \text{ cm}^2$

Area of semi-circle = $\frac{1}{2} \times \frac{22}{7} \times 7 \times 7 = 77 \text{ cm}^2$

Area of small square = $14 \times 14 = 196 \text{ cm}^2$

Area of shaded portion of one small square = $196 - 154 + 77 = 119 \text{ cm}^2$

Total shaded parts = $119 \times 4 = 476 \text{ cm}^2$

b)

Perimeter of quadrant = $\frac{1}{4} \times \frac{22}{7} \times 28 = 22$ cm

Perimeter of semi-circle = $\frac{1}{2} \times \frac{22}{7} \times 14 = 22$ cm

Straight line = 14

Perimeter of shaded parts = $(22 + 22 + 14) \times 4 = 232$ cm

Ans: (a) 476 cm^2

(b) 232 cm

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