



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 : _____

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 82×300 ?

- (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

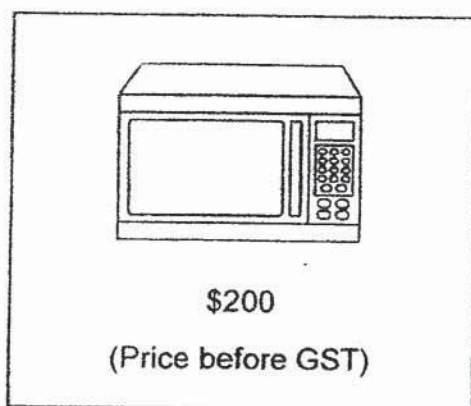
5. Simplify $28 + 13y - y + 5y$.

- (1) $28 + 7y$
- (2) $28 + 17y$
- (3) $41 + 5y$
- (4) $45y$

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

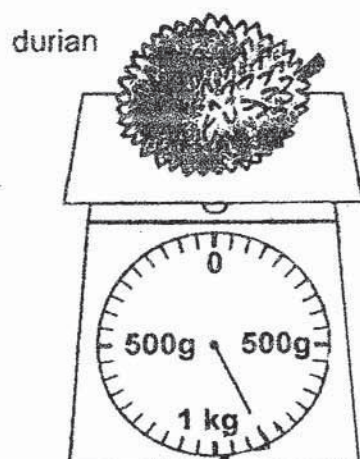
- (1) $5 + \frac{1}{10} + \frac{4}{100}$
- (2) $5 + \frac{14}{10}$
- (3) $5 + \frac{14}{1\,000}$
- (4) $5 + \frac{1}{10} + \frac{4}{1\,000}$

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



- (1) \$186
- (2) \$193
- (3) \$207
- (4) \$214

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

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?

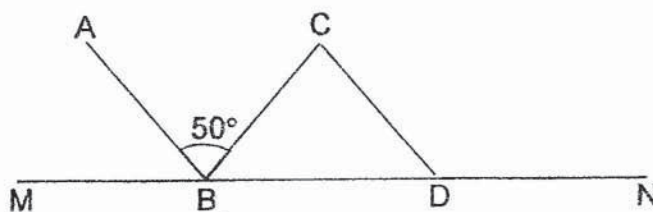
(1) \$1 680

(2) \$2 520

(3) \$5 880

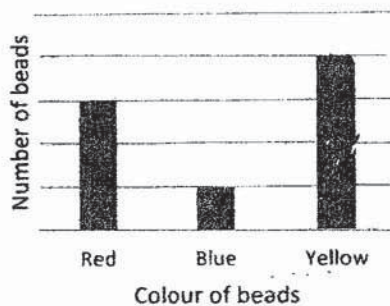
(4) \$6 300

14. In the figure, not drawn to scale, MN is a straight line, $BC = DC$ and $AB \parallel CD$. Find $\angle BDC$.

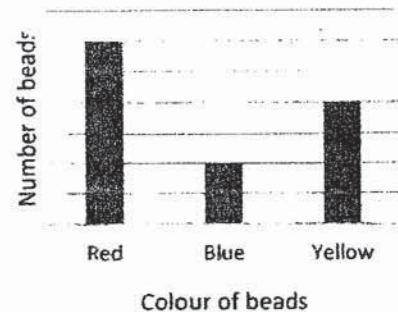


- (1) 40°
 (2) 50°
 (3) 65°
 (4) 130°
15. The ratio of the number of red beads to the number of blue beads is 3 : 2.
 The ratio of the number of red beads to the number of yellow beads is 1 : 2.
 Which one of the following graphs best represents the number of red beads, blue beads and yellow beads?

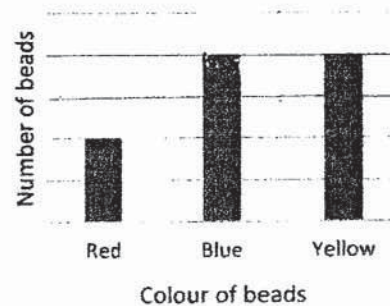
(1)



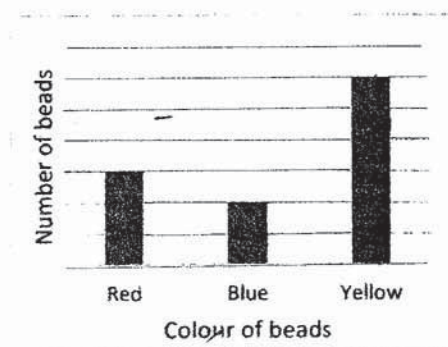
(2)



(3)



(4)





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 : _____

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 $2 \div \frac{4}{9}$.

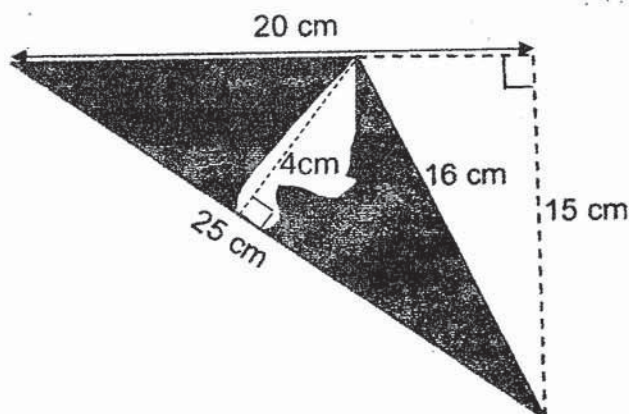
Give your answer as a mixed number in the simplest form.

Ans: _____

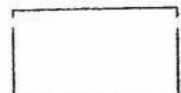
18. Find the value of $80.2 \div 5$.

Ans: _____

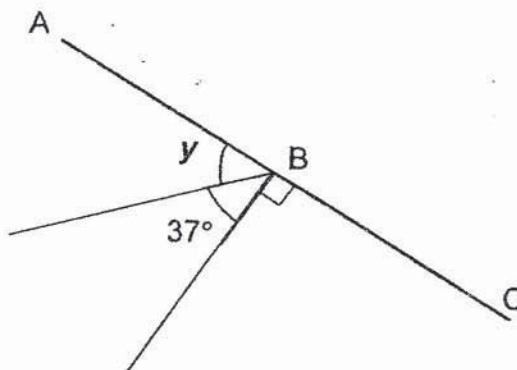
19. Find the area of the shaded triangle below.



Ans: _____ cm²



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



Ans: _____^o



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: _____

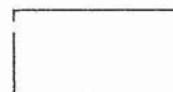
22. In a race, Diana walked at an average speed of 90 m/min for the first 20 minutes and walked at an average speed of 100 m/min for the next 30 minutes. What was her average walking speed for the race?

Ans: _____ m/min

23. There are 40 red stickers, 24 green stickers and 15 yellow stickers.
- Express the number of green stickers as a fraction of the number of red stickers in its simplest form.
 - What is the ratio of the number of yellow stickers to the total number of stickers?

Ans: (a) _____

(b) _____



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: \$ _____



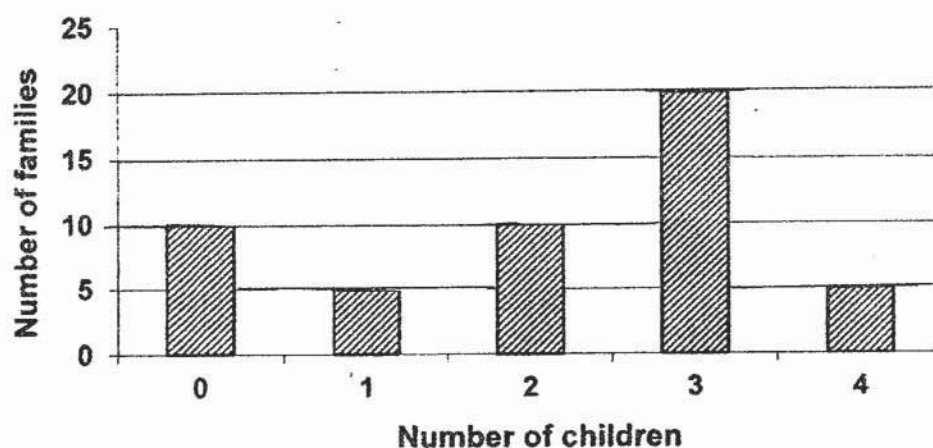
27. The table shows how much ABC Cleaning Company charges for a home cleaning job.

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: _____

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

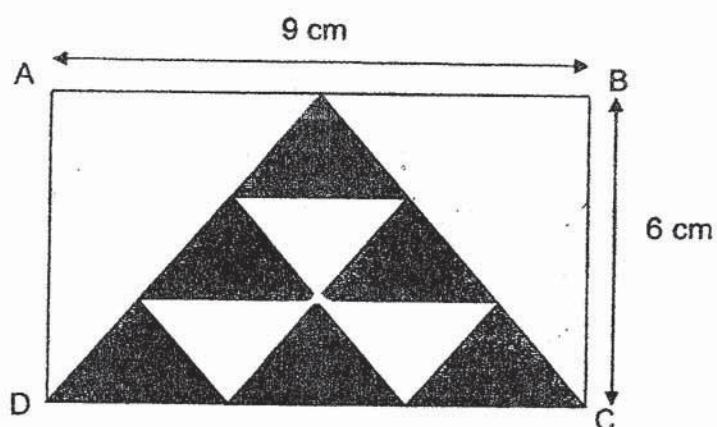


- (a) Find the perimeter of the figure.
- (b) Find the area of the figure. Take $\pi = \frac{22}{7}$

Ans: (a) _____ cm

(b) _____ cm²

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



Ans: _____ cm²

--- End of Paper 1 ---





**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 : _____

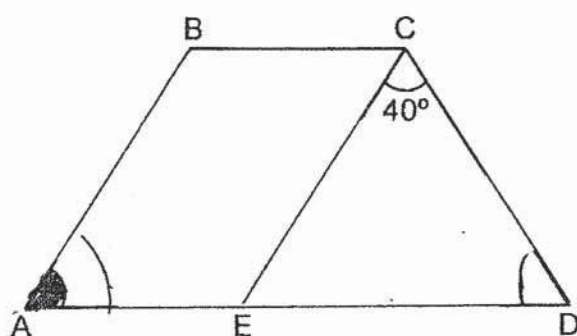
Paper 2 (55 marks)

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)

Do not write in this space

1. The figure below is not drawn to scale. $CD = CE$ and $ABCE$ is a parallelogram.

AED is a straight line and $\angle DCE = 40^\circ$. Find $\angle BAE$.



Ans: _____°

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



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?

Do not write in this space

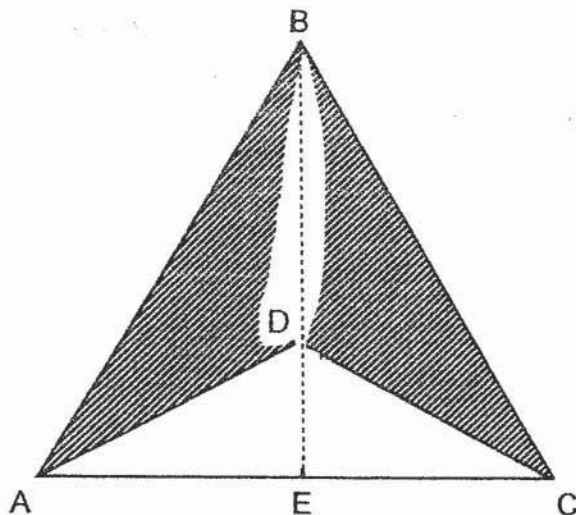
Ans: _____

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?

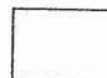
Ans: _____

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 cm^2 . What is the area of the shaded part?

Do not write in
this space



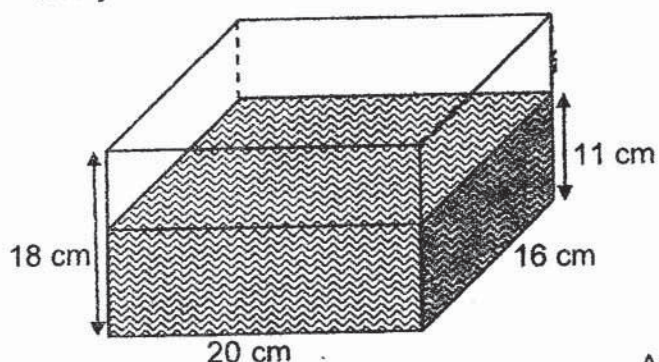
Ans: _____ cm^2



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?

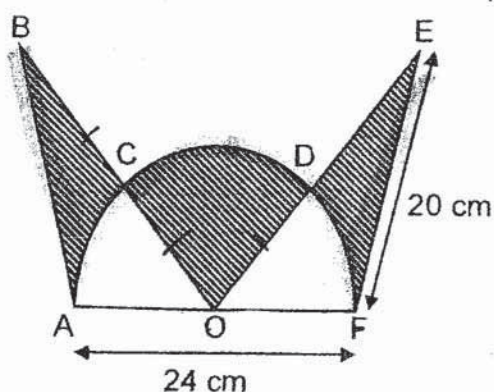
Ans: _____ [3]

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 $\pi = 3.14$)



Ans: _____ [3]

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]

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

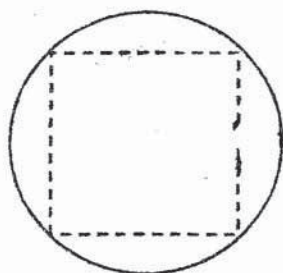


Figure 1

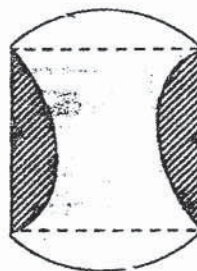


Figure 2

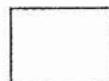
Ans _____ [4]



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]



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]



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.

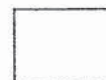
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Player	Number of sticks picked		Total points earned
	Red	Blue	
Roy	20	14	450
Stanley	30	9	495
Ted	15	?	450

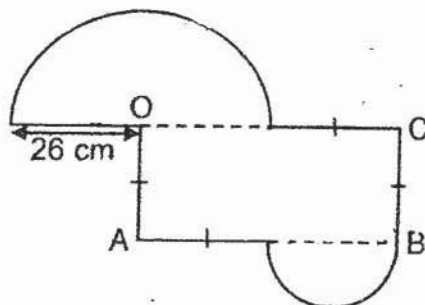
- (a) Roy earned as many points as Ted. How many blue sticks did Ted pick?
- (b) Umar picked as many sticks as Stanley but earned 6 more points. How many blue sticks did Umar pick?

Ans: (a) _____[1]

(b) _____[3]

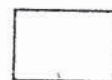


15. The figure below which is not drawn to scale, is made up of 2 semi-circles and a rectangle. O is the centre of the semi-circle. OABC is a rectangle. Find the perimeter of the figure. (Take $\pi = 3.14$)



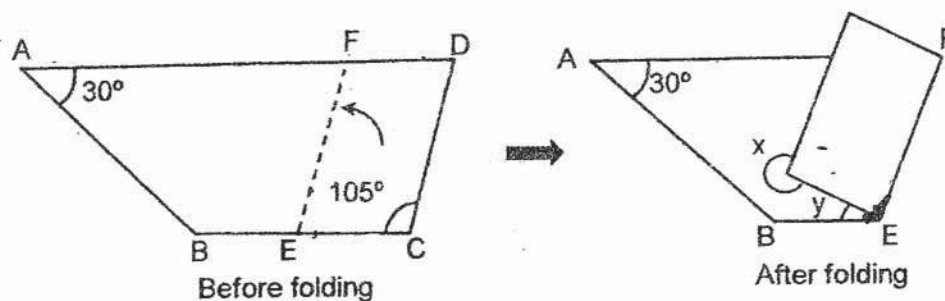
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this space

Ans: _____ [4]



Do not write in
this space

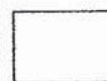
16. The following diagram which is not drawn to scale, shows a piece of paper ABCD in the shape of a trapezium. $\angle BAD = 30^\circ$ and $\angle BCD = 105^\circ$. The paper is folded along the line EF which is parallel to CD.



- (a) Find $\angle x$.
(b) Find $\angle y$.

Ans: (a) _____ [2]

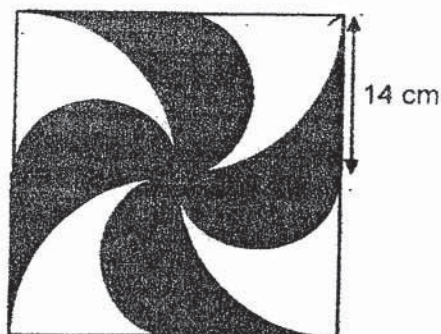
(b) _____ [3]



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-----

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)

Q24)

Q25)

a) $\frac{3}{5}$

a) 1092

a) 3

b) 2019

b) $\frac{1}{8} \text{ kg}$

b) 15.79

Q26)
\$(80 - 11k)\$

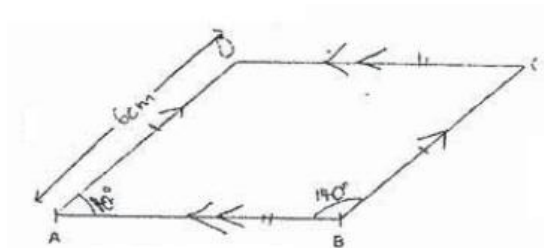
Q27) 9 h

Q28) 105

Q29)

Q30) 18 cm^2 a) 36 cm
b) 77 cm^2 Paper 2Q1. $\angle BAE = 70^\circ$

Q2.

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

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

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

Q4. $52 \times 5 = 260$ chocolate muffinsQ5. $(\frac{1}{2} \times 18 \times 18) - 54 = 108 \text{ cm}^2$

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 = $20 \times 16 \times 7 = 2240$ cm³

Volume of each bottle = $2240 \div 8 = 280$ cm³ = 280 ml

Ans: 280 ml

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

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

Difference between Cynthia and Devi's savings = 15

Devi's savings = $(187 - 15) \div 2 = \$86$

Cynthia's savings = $86 + 15 = \$101$

Ans: \$101

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

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

Number of boys $\rightarrow \frac{4}{9}$

Number of girls $\rightarrow \frac{1}{9}$

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

$\frac{1}{9} \rightarrow 220$

$\frac{9}{9} \rightarrow 220 \times 9 = 1980$ visitors

Ans: 1980 visitors

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

10. Distance from X to Y = $75 \times 5 + 30 = 405$ km

Time taken by Jake = $5 - 0.5 = 4.5$ hr

Average Jake's speed = $405 \div 4.5 = 90$ km/hr

Ans: 90 km/h

11. Area of circle = $\frac{22}{7} \times 7 \times 7 = 154$ cm²

Area of square = $7 \times 7 \times 2 = 98$ cm²

Shaded area = $\frac{1}{2} \times (154 - 98) = 28$ cm²

Unshaded area = $154 - 28 = 126$ cm²

Ans: 126 cm²

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

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

Total number of stamps = $4u = 4 \times 60 = 240$

Ans: 240

-
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 = $13u + \frac{130}{100} \times 120 = 13u + 156$

Total tickets on Sunday = $9u + 13u + 156 = 816$

$22u = 816 - 156 = 660$

$u = 660 \div 22 = 30$

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

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

Total sales on Saturday = $5040 + 7500 = \$12540$

Ans: \$12540

14. a)

If Ted pick 15 red and 15 blue sticks, Total pointst = $15 \times (12 + 15) = 405$

Excess points = $450 - 405 = 45$

Extra blue sticks = $45 \div 15 = 3$

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

b)

Umar points = $495 + 6 = 501$

If all 39 sticks are red sticks, total points = $39 \times 12 = 468$

Excess points = $501 - 468 = 33$

Difference in points = $15 - 12 = 3$

Number of blue sticks = $33 \div 3 = 11$

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

15. Perimeter of large semi-circle = $26 \times \pi = 26\pi$ cm

Perimeter of small semi-circle = $13 \times \pi = 13\pi$ cm

Perimeter of rectangle = $26 \times 5 = 130$ cm

Perimeter of figure = $26\pi + 13\pi + 130 = 39\pi + 130 = 252.46$ cm

Ans: 252.46 cm

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

Ans: (a) 255°

(b) 30°

-
17. a)

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

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

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

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

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

- b)

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

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

$$\text{Straight line} = 14$$

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

Ans: (a) 476 cm^2

(b) 232 cm