

METHODIST GIRLS' SCHOOL (PRIMARY)

Founded in 1887



MID-YEAR EXAMINATION 2019
PRIMARY 6
MATHEMATICS

PAPER 1
BOOKLET A

Total Time for Booklets A and B: 1 hour

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.

Follow all instructions carefully.

Answer all questions.

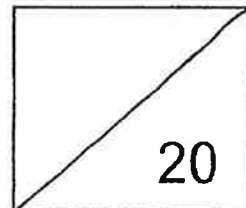
Shade your answers in the Optical Answer Sheet (OAS) provided.

The use of calculators is **NOT** allowed.

Name: _____ ()

Class: Primary 6. _____

Date: 14 May 2019



This booklet consists of 6 printed pages including this 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). Shade the correct oval (1, 2, 3 or 4) on the
Optical Answer Sheet.

(20 marks)

1 Express $37 + 12n - 2n + 7n$ in the simplest form.

(1) $37 + 3n$

(2) $37 + 17n$

(3) $49 - 9n$

(4) $49 + 5n$

2 $0.15 \times \square + 4 = 154$

What is the missing number in the box?

(1) 1

(2) 10

(3) 100

(4) 1000

3 The ratio of Hassan's age to Meng Li's age is 3 : 8. What fraction of their total age is Meng Li's age?

(1) $\frac{3}{11}$

(2) $\frac{3}{8}$

(3) $\frac{8}{11}$

(4) $\frac{8}{3}$

4 Express $\frac{2}{7}$ as a decimal corrected to 2 decimal places.

- (1) 0.27
- (2) 0.28
- (3) 0.29
- (4) 0.30

5 There are 70 fruits in a box, 56 are apples and the rest are pears. What is the ratio of the number of pears to the number of apples?

- (1) 1 : 4
- (2) 1 : 5
- (3) 4 : 1
- (4) 4 : 5

6 A box contains 200 blue, red and yellow marbles. There are 65 blue marbles, 45 red marbles and the rest are yellow. What percentage of the total number of marbles is yellow?

- (1) 45%
- (2) 50%
- (3) 55%
- (4) 90%

7 Gayle has p stickers. Zahra has three times as many stickers as Gayle and Lee Qin has 4 stickers fewer than Gayle. How many stickers do they have altogether?

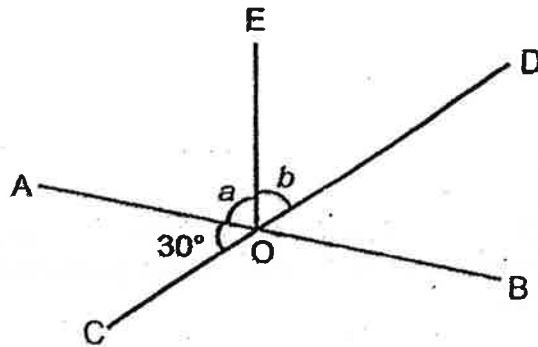
- (1) $(4p + 4)$
- (2) $(5p + 4)$
- (3) $(5p - 4)$
- (4) $(7p - 4)$

8 Which one of the following shapes does not have both of the properties below?

- (a) Diagonally opposite angles are equal.
- (b) Angles between parallel lines are equal.

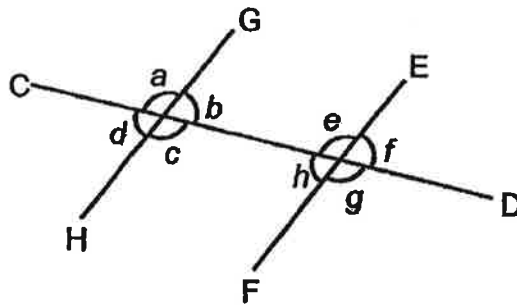
- (1) Rhombus
- (2) Rectangle
- (3) Trapezium
- (4) Parallelogram

9 In the figure, AB, CD and OE are straight lines. $\angle a = \angle b$. Find $\angle a$.



- (1) 30°
- (2) 60°
- (3) 75°
- (4) 150°

- 10 In the figure below, CD, EF and GH are straight lines. EF and GH are parallel to each other.



Which one of the following statements is true?

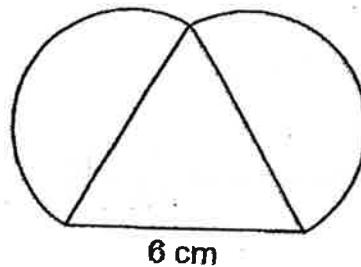
- (1) $\angle d = \angle e$
 (2) $\angle c = \angle g$
 (3) $\angle a = \angle f$
 (4) $\angle b = \angle e$
- 11 Find the value of $\frac{3}{10} \div \frac{2}{5}$
- (1) $\frac{3}{4}$
 (2) $\frac{4}{3}$
 (3) $\frac{3}{25}$
 (4) $\frac{25}{3}$
- 12 Mother had $\frac{5}{9}$ m of ribbon. She used $\frac{3}{5}$ of it to tie a present. How much ribbon had she left?
- (1) $\frac{1}{2}$ m
 (2) $\frac{1}{3}$ m
 (3) $\frac{2}{45}$ m
 (4) $\frac{2}{9}$ m

13 Mr Tan spent 10% of his money on food and 15% on transport. He then had \$300 left. How much money did he have at first?

- (1) \$100
- (2) \$200
- (3) \$400
- (4) \$900

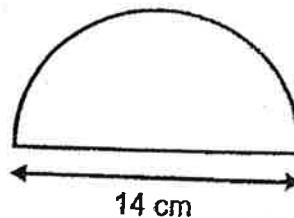
14 The figure is formed by an equilateral triangle and 2 semicircles of diameter 6 cm. Find the perimeter of the figure. Leave your answer in terms of π .

- (1) $(6\pi + 6)$ cm
- (2) $(6\pi + 18)$ cm
- (3) $(9\pi + 6)$ cm
- (4) $(12\pi + 18)$ cm



15 The figure is a semicircle of diameter 14 cm. What is the area of the figure?
Take $\pi = \frac{22}{7}$.

- (1) 22 cm^2
- (2) 44 cm^2
- (3) 77 cm^2
- (4) 154 cm^2



METHODIST GIRLS' SCHOOL (PRIMARY)

Founded in 1887



MID-YEAR EXAMINATION 2019 PRIMARY 6 MATHEMATICS

PAPER 1 BOOKLET B

Total Time for Booklets A and B: 1 hour

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.

Follow all instructions carefully.

Answer all questions.

Write your answers in this booklet.

The use of calculators is **NOT** allowed.

Name: _____ ()

Class: Primary 6. _____

Date: 14 May 2019

Parent's Signature: _____

Paper 1 Booklet A	/ 20
Paper 1 Booklet B	/ 25
Paper 2	/ 55
TOTAL	/ 100

This booklet consists of **8** printed pages including this page.

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. (5 marks)

Do not write in this space

16 Write in two million, ten thousand and nine in numerals.

Ans: _____

17 A number when rounded to the nearest hundred is 1 600. What is the greatest possible whole number?

Ans: _____

18 Find the value of $\frac{1}{10} + \frac{9}{1000}$. Give your answer as a decimal.

Ans: _____

19 Express 0.9% as a fraction.

Do not write
in this space

Ans: _____



20 Mr Wong has a 10-m long string. He cuts the string into shorter lengths of $\frac{5}{6}$ m each. How many such shorter pieces of string will he get?

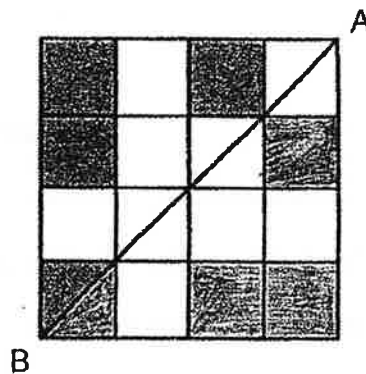
Ans: _____



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)

Do not write in this space

- 21 Shade the least number of squares or triangles, such that AB is the line of symmetry.



- 22 Figure A is made up of 2 identical quadrants.
Both Figure A and Figure B have the same diameter of 20 cm.

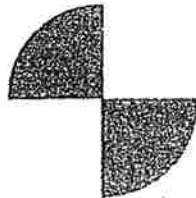


Figure A



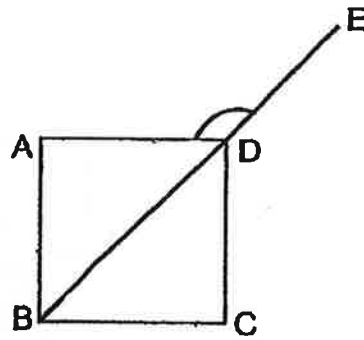
Figure B

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

Statement	True	False	Not possible to tell
Both Figure A and Figure B have the same perimeter.			
Both Figure A and Figure B have the same area.			



- 23 In the figure below, ABCD is a square. Find $\angle ADE$.



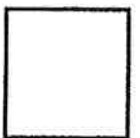
Do not write
in this space

Ans: _____ °

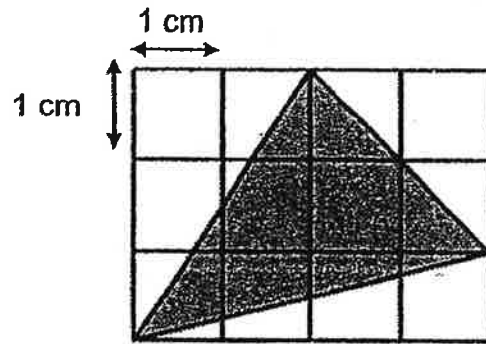


- 24 James bought $1\frac{1}{8}$ kg of beef. He used $\frac{3}{4}$ kg of it to make some beef patties. How much beef had he left?

Ans: _____ kg

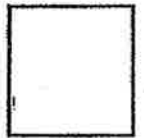


25 What fraction of the figure is shaded?



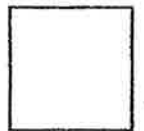
Do not write
in this space

Ans: _____



26 There were 50 children at a party. Each child received a packet of sweets which had a mass of 0.15 kg. What was the total mass of the sweets that was given out?

Ans: _____ g



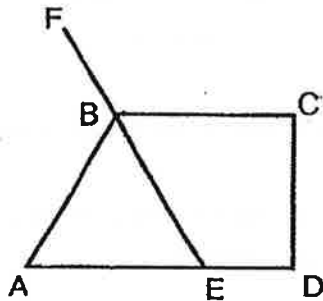
- 27 Mr Tan bought $7d$ pencils. He gave 3 pencils to each of his pupils and had $2d$ pencils left. Express the number of pupils Mr Tan had in terms of d .

Do not write
in this space

Ans: _____



- 28 In the diagram below, ABE is an equilateral triangle. BC is parallel to AD and DC is perpendicular to BC . Find $\angle FBC$.



Ans: _____ °

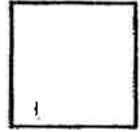


- 29 The figure is made up of 4 identical rectangles. What is the ratio of the shaded area to the total area of 4 identical rectangles?

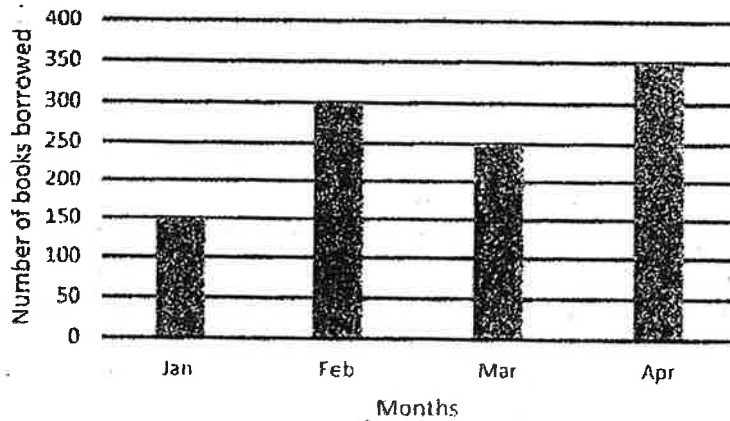


Ans: _____

Do not write
in this space



- 30 The graph below shows the total number of books borrowed from January to April.

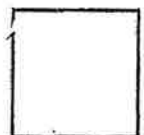


- (a) In which month was there a decrease in the number of books borrowed?
 (b) What was the percentage increase in the number of books borrowed in February compared to January?

Ans: (a) _____

(b) _____

End of Paper



METHODIST GIRLS' SCHOOL (PRIMARY)

Founded in 1887



MID-YEAR EXAMINATION 2019 PRIMARY 6 MATHEMATICS

PAPER 2

Duration: 1h 30 min

INSTRUCTIONS TO CANDIDATES

Do not turn over this page until you are told to do so.
Follow all instructions carefully.

Answer all questions.

Write your answers in this booklet.

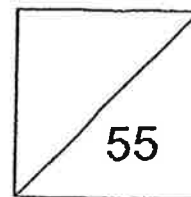
The use of an approved calculator is expected, where appropriate.

Name: _____ ()

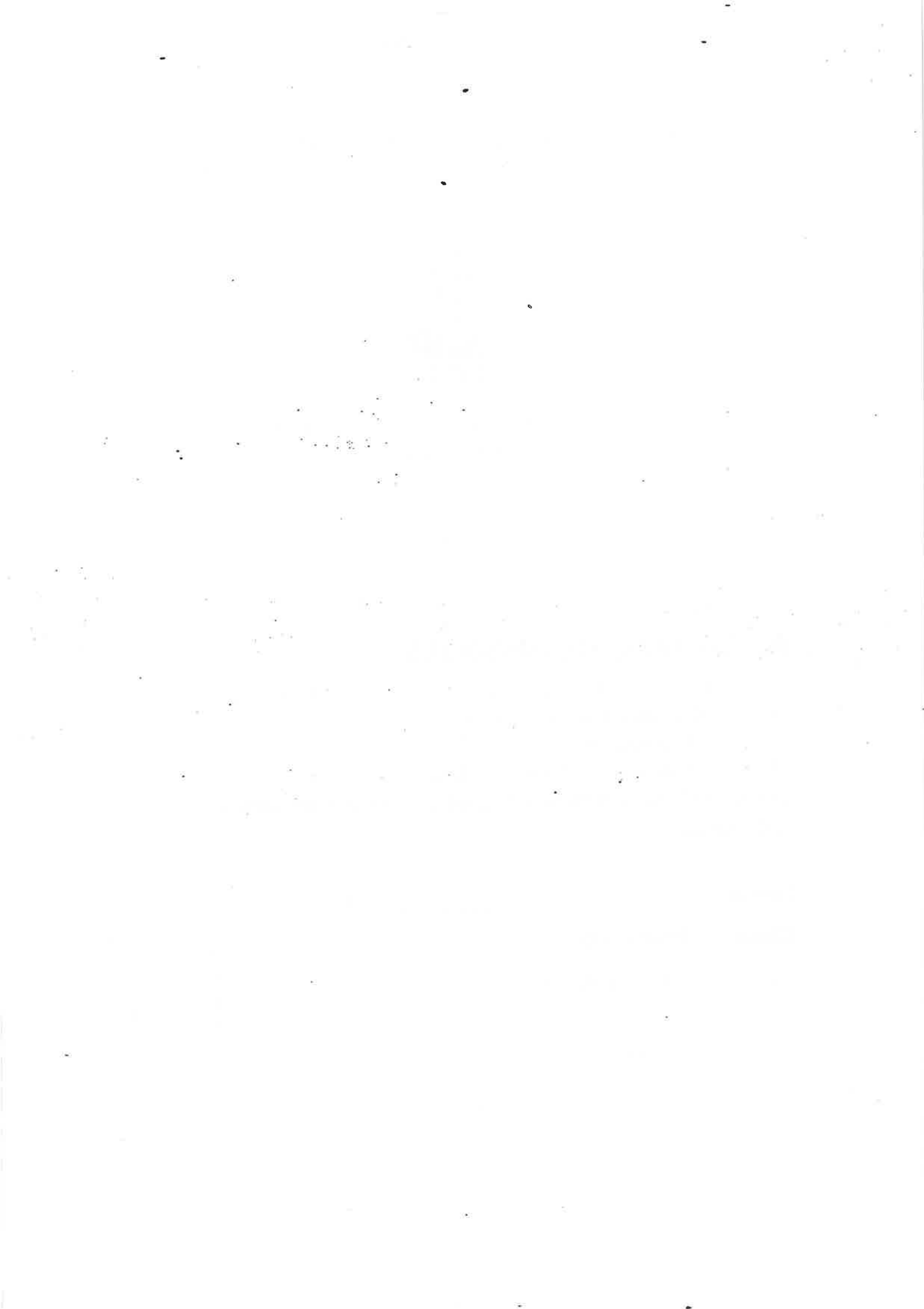
Class: Primary 6. _____

Date: 14 May 2019

Parent's Signature: _____



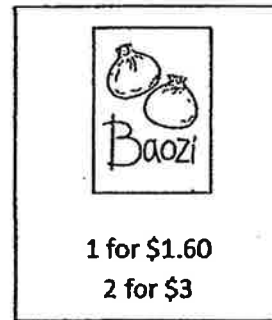
This booklet consists of 14 printed pages including this page.



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)

Do not write in this space

- 1 Buns were sold at \$1.60 each or 2 for \$3. What was the greatest number of buns that Siti could buy with \$20?



Ans: _____

- 2 Ben had enough money to buy either 4 notebooks or 20 exercise books. He bought 5 exercise books and some note books. How many notebooks did he buy?

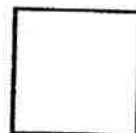
Ans: _____

3 Find the value of $6 + \frac{3n}{5}$ when $n = 7$.

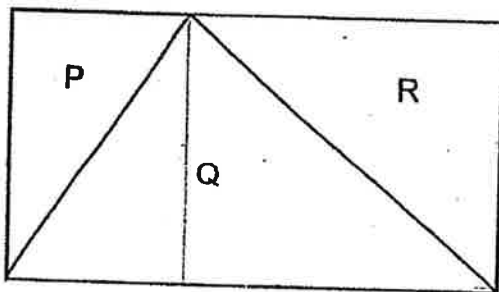
Give your answer as a mixed number in the simplest form.

Do not write
in this space

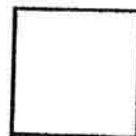
Ans: _____



4 The figure below is a rectangle. The ratio of the area P to the area of Q is 3 : 7. What is the ratio of the area of Q to the area of R?



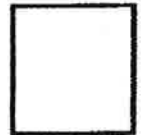
Ans: _____



- 5 May bought 160 red and blue buttons. 25% of the buttons bought were red. May used 75% of the blue buttons for art work.
How many blue buttons did May use?

Do not write
in this space

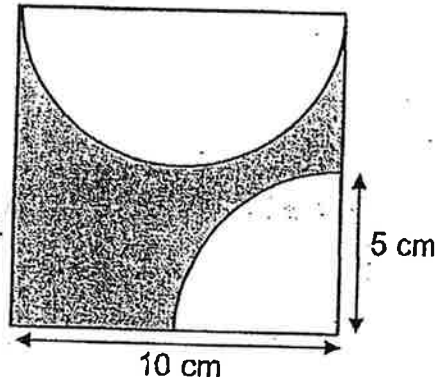
Ans: _____



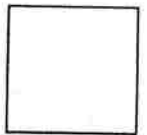
For questions 6 to 17, show your working clearly and write your answers in the space provided. The number of marks available is shown in brackets [] at the end of each question or part-question. (45 marks)

Do not write in this space

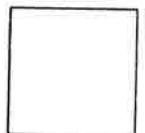
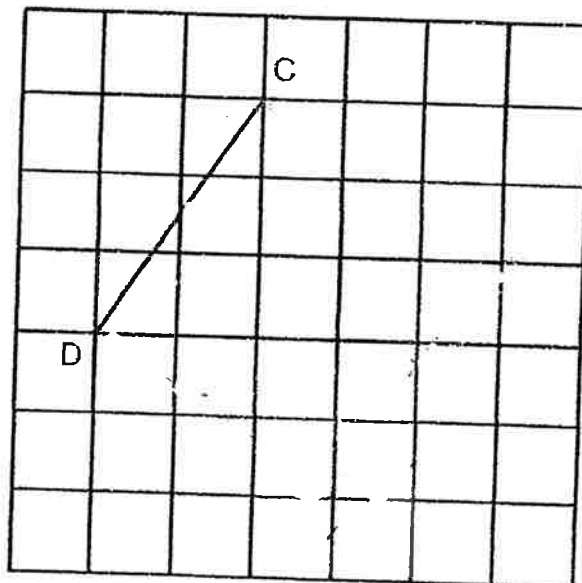
- 6 The figure shows a square of side 10 cm, a semicircle and a quadrant of radius 5 cm. Find the perimeter of the shaded part. Take $\pi = 3.14$.



Ans: _____ [3]



- 7 The grid below shows a straight line, CD. Draw 3 more lines to form a square CDEF. Label your diagram clearly. [3]



- 8 Gavin had some chicken pies and vegetable pies in the ratio of 5 : 2. He sold 18 chicken pies and made 15 more vegetable pies. In the end, he has equal number of chicken pies and vegetable pies. How many vegetables pies did he have at first?

Do not write
in this space

Ans: _____ [3]



- 9 Su Mei is k years older than her sister. The sum of their ages is 38 years.
- (a) How old is Su Mei now? Express Su Mei's age in terms of k .
- (b) If $k = 6$, how old will Su Mei be in 7 years' time?

Ans: (a) _____ [1]

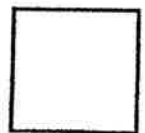
(b) _____ [2]



- 10 The books in a library are packed equally into Box A and Box B. The ratio of the number of fiction books to the number of non-fiction books in Box A is 2 : 1. The ratio of the number of fiction books to the number of non-fiction books in Box B is 4 : 11. What is the ratio of the total number of fiction books to the total number of non-fiction books in the library?

Do not write
in this space

Ans: _____ [3]



11 Diana has 1625 ml of orange juice in a jug. She poured the juice into similar glasses, filling each glass with 250 ml of orange juice.

(a) What was the maximum number of such glasses Diana could fill?

(b) How much of the orange juice was left in the jug?
Give your answer in litres.

Do not write
in this space

Ans: (a) _____ [2]

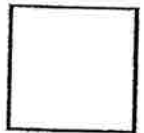
(b) _____ [2]



- 12 There were 350 goldfish and guppies in a shop. 20% of them were goldfish. After some goldfish were added, the percentage of goldfish increased to 30%. How many goldfish were added?

Do not write
in this space

Ans: _____ [4]



13 In May, Mr Ahmad saved $\frac{1}{3}$ of his salary and used $\frac{1}{5}$ of his monthly salary to buy a mobile phone. He spent $\frac{3}{8}$ of the remainder on transport and the rest of the \$1750 was spent on food.

(a) What fraction of his monthly salary in May was spent on food?

(b) What was Mr Ahmad's monthly salary in May?

Do not write
in this space

Ans: (a) _____ [2]

(b) _____ [2]



14 The figures below are formed using similar matchsticks and dots.

Do not write
in this space



Figure 1

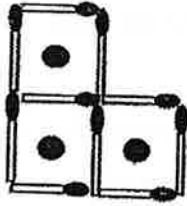


Figure 2

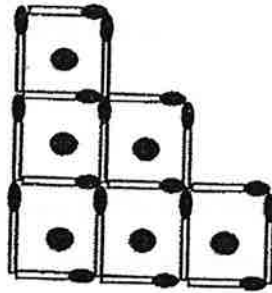


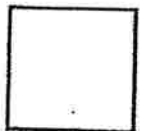
Figure 3

(a) Complete the following table.

Figure Number	Number of dots	Number of matchsticks
1	1	4
2	3	10
3	6	18
4	(i) _____ [1]	(ii) _____ [1]

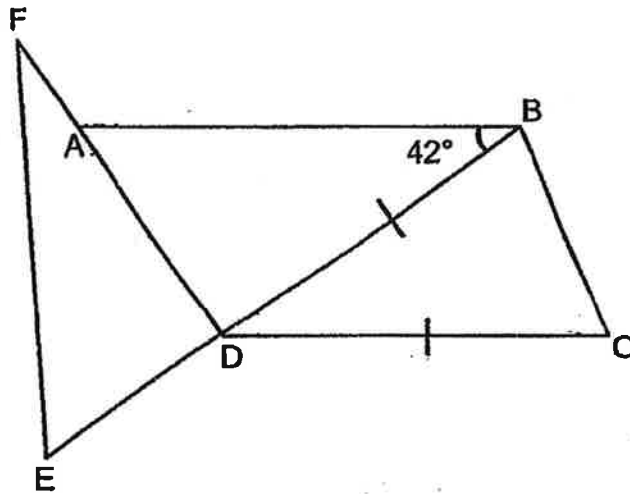
(b) Which figure will have 120 dots?

Ans: (b) _____ [2]



- 15 In the diagram below, $\overset{\text{and FAD}}{\text{EDB}}$ ~~is a~~ ^{are} straight ^{lines} and AB is parallel to DC .
 $\angle ABD = 42^\circ$ and $BD = CD$.

Do not write
in this space



- (a) Find $\angle DCB$.
 (b) Find $\angle FAB$.

Ans: (a) _____ [2]
 (b) _____ [2]

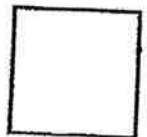


- 16 Mary has $\frac{4}{7}$ as many stickers as Sandy and $\frac{2}{5}$ as many stickers as Cindy.
Cindy has 15 more stickers than Sandy.

Do not write
in this space

- (a) What fraction of Cindy's stickers is Sandy's stickers?
(b) How many stickers do the 3 girls have altogether?

Ans: (a) _____ [3]
(b) _____ [2]



17



ABC Bubble Tea

\$4.50 per cup

For every 5 cups of bubble tea purchased,
a 20% discount will be given to the 5th cup.

Do not write
in this space

Each cup of bubble tea cost \$4.50 before discount.

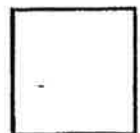
(a) How much did Mrs Yeo pay for 5 cups of bubble tea?

(b) Mrs Yeo paid \$151.20 for some cups of bubble tea.

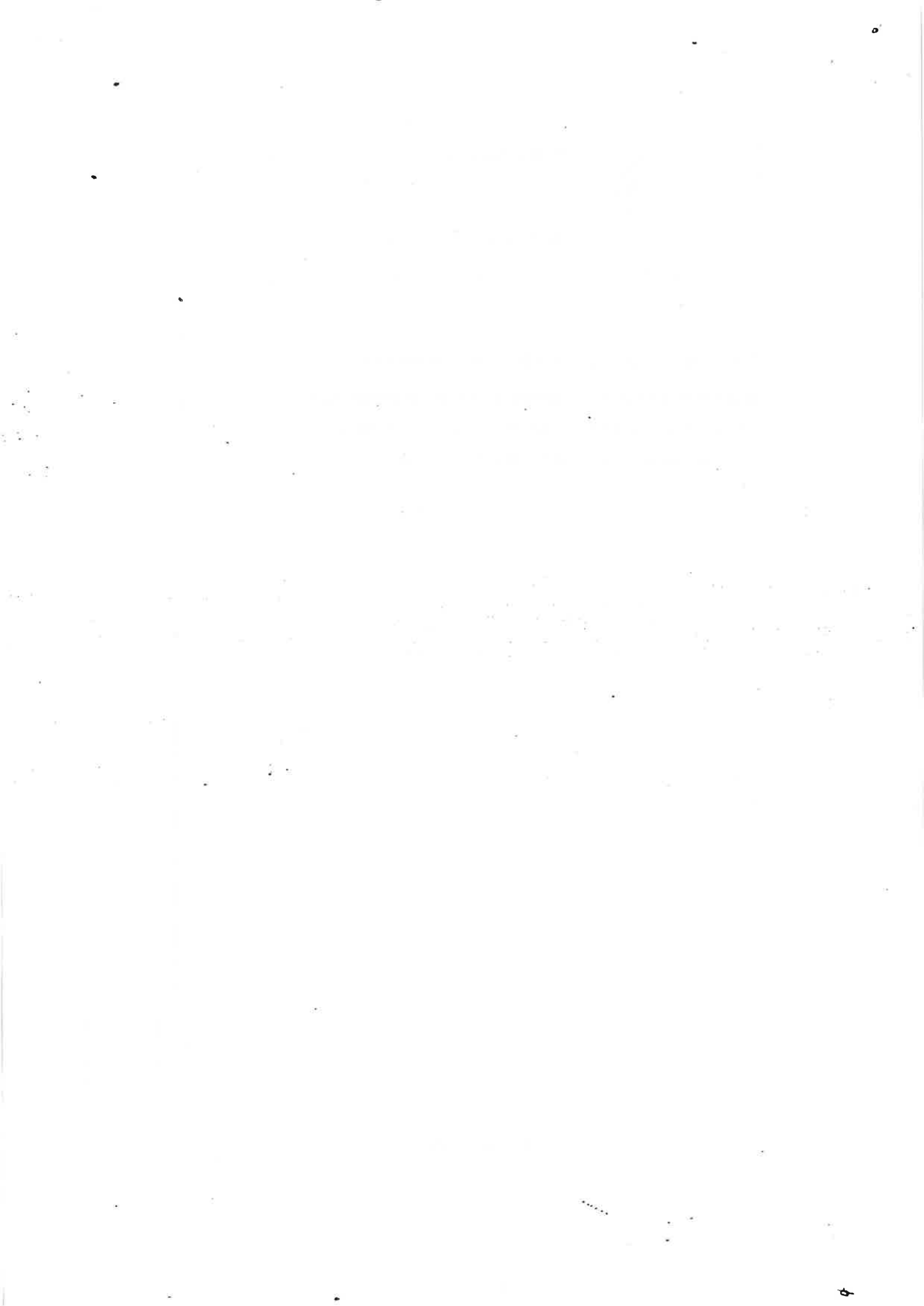
How many cups of bubble tea did she buy?

Ans: (a) _____ [3]

(b) _____ [2]



End of Paper



ANSWER KEY

YEAR : 2019
LEVEL : PRIMARY 6
SCHOOL : METHODIST GIRLS' SCHOOL (PRIMARY)
SUBJECT : MATHEMATICS
TERM : SA1



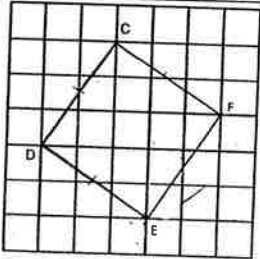
SECTION A

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


SECTION B

Q16	2 010 009
Q17	1649
Q18	0.109
Q19	$\frac{9}{1000}$
Q20	$10 \div \frac{5}{6} = 12$
Q21	
Q22	(i) False (ii) True
Q23	$180 - 45 = 135^\circ$
Q24	$\frac{9}{8} - \frac{6}{8} = \frac{3}{8}$
Q25	$\frac{5}{12}$
Q26	7500g
Q27	$7d - 2d = 5d$ $5d \div 3 = \frac{5}{3}d$
Q28	120°
Q29	3 : 8
Q30	(a) Mar (b) $300 - 150 = 150$ $150 \div 150 = 1 \approx 100\%$

SECTION C

Q1	$20 \div 3 = 6 \text{ R } 2$ $6 \times 2 + 1 = 13 \leftarrow (\$18 \text{ for } 12 \text{ buns and } \$2 \text{ for } 1 \text{ bun and remain } \$0.40)$
Q2	$4 : 20$ $(1 : 5)$ $3 : 15$ Ans $\rightarrow 3$
Q3	$6 + \frac{3 \times 7}{5} = 6 + \frac{21}{5} = 10\frac{1}{5}$
Q4	$7u - 3u = 4u \leftarrow \text{Area of R}$ Ans $\rightarrow 7 : 4$
Q5	$100\% - 25\% = 75\%$ $\frac{75}{100} \times 160 = 120 \text{ (blue)}$ Ans $\rightarrow \frac{75}{100} \times 120 = 90$
Q6	$\frac{1}{2} \times 2 \times 3.14 \times 5 = 15.7\text{cm} \leftarrow \text{Semicircle}$ $\frac{1}{4} \times 2 \times 3.14 \times 5 = 7.85\text{cm} \leftarrow \text{quarter circle}$ Ans $\rightarrow 7.85 + 15.7 + 10 + 5 + 5 = 43.55\text{cm}$
Q7	
Q8	$5u - 18 = 2u + 15$ $5u - 2u = 18 + 15$ $3u = 33$ $1u = 11$ Ans $\rightarrow 2u = 11 \times 2 = 22$
Q9	(a) $(38 + k) \div 2 = \frac{38+k}{2}$ (b) $\frac{38+6}{2} = 16 \leftarrow \text{Her sister age}$ $16 + 6 = 22 \leftarrow \text{Su Mei (now)}$ $22 + 7 = 29 \leftarrow \text{Su Mei's age in 7 years' time}$
Q10	$2 \times 5 : 1 \times 5 \rightarrow 10 : 5$ $4 + 10 : 5 + 11$ $\rightarrow 14 : 16$ Ans : $7 : 8$
Q11	(a) $1625 \div 250 = 6 \text{ R } 125$ Ans : 6 (b) $250 \times 6 = 1500$ $1625 - 1500 = 125$ Ans: 0.125L



Q12	$\frac{20}{100} \times 350 = 70$ $350 - 70 = 280$ $280 \rightarrow 70\%$ $10\% \rightarrow 280 \div 7 = 40$ $30\% \rightarrow 40 \times 3 = 120$ $\text{Ans} \rightarrow 120 - 70 = 50$	
Q13 (a)	$\frac{5}{15} \times \frac{3}{15} = \frac{8}{15}$ $1 - \frac{8}{15} = \frac{7}{15}$ $\frac{7}{15} \times \frac{5}{8} = \frac{7}{24}$	
(b)	$7u = 1750$ $1u = 1750 \div 7 = 250$ $24u = 24 \times 250 = \$6000$	
Q14	(a) (i) 10 (ii) 28 (b) Figure 15	
Q15	(a) $\angle ABD = \angle BDC$ $\angle DCB = (180 - 42) \div 2 = 69^\circ$ (b) $\angle BAD = 180 - 42 - 90 = 48^\circ$ $\angle FAB = 180 - 48 = 132^\circ$	
Q16	(a) $\frac{2}{5} \div \frac{4}{7} = \frac{2}{5} \times \frac{7}{4} = \frac{14}{20} = \frac{7}{10}$ (b) $3u \rightarrow 15$ $1u \rightarrow 5$ $4u + 7u + 10u = 21u$ $21u = 5 \times 21 = 105$	
Q17 (a)	$4.50 \times \frac{20}{100} = \0.90 $4.50 - 0.90 = \$3.60$ $4.50 \times 4 + 3.60 = \$21.60$	
Q17 (b)	$\$151.20 \div 21.60 = 7$ $7 \times 5 = 35$	

