



NANYANG PRIMARY SCHOOL

**FIRST SEMESTRAL EXAMINATION
2018**

PRIMARY 6

**MATHEMATICS
PAPER 1
(BOOKLET A)**

Total Duration for Booklets A and B: 1 hour

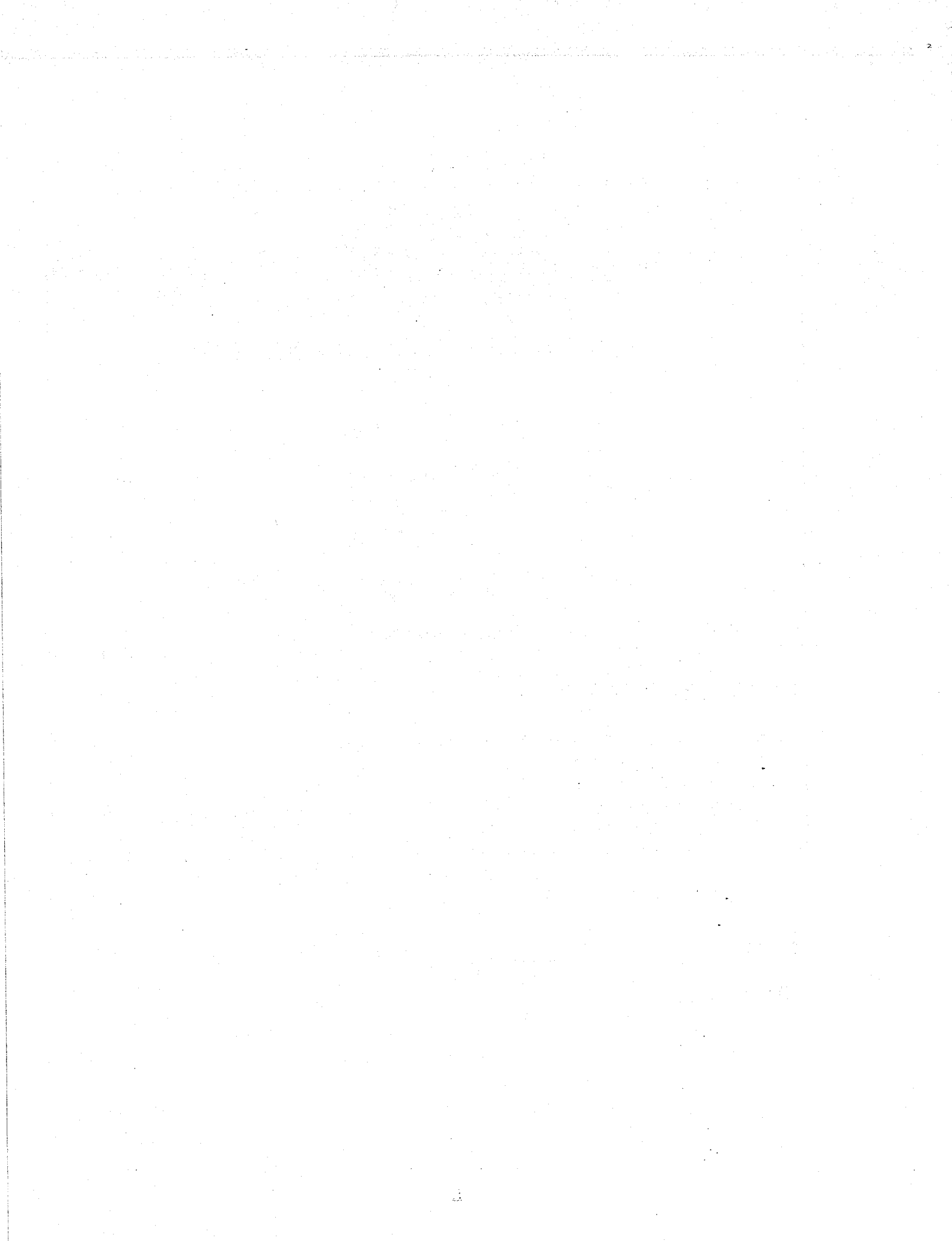
Additional materials: Optical Answer Sheet (OAS)

INSTRUCTIONS TO PUPILS

1. Do not turn over this page 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. The use of calculators is **NOT** allowed.

Name: _____ ()

Class: Primary 6 ()



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 on the Optical Answer
Sheet. (20 marks)

1 Find the value of $\frac{3}{4} \div \frac{1}{8}$

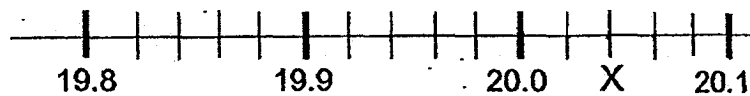
(1) $\frac{1}{6}$

(2) $\frac{3}{32}$

(3) $10\frac{2}{3}$

(4) 6

2 In the number line below, what is the value of X?



(1) 20.2

(2) 20.4

(3) 20.02

(4) 20.04

- 3 Joyce baked some cookies. She gave 80% of the cookies to Zac. Zac ate 20% of the cookies he received from Joyce. Which one of the following shows the percentage of total cookies that Zac ate?

(1) $\frac{1}{5} \times 20\%$

(2) $\frac{1}{5} \times 80\%$

(3) $\frac{4}{5} \times 80\%$

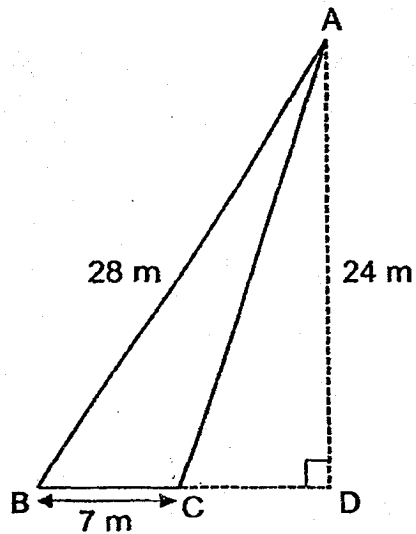
(4) $\frac{4}{5} \times 100\%$

- 4 Which one of the following is likely to be the mass of an unopened can of soda?



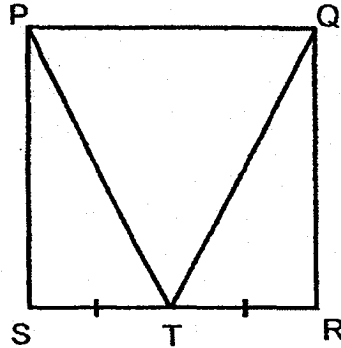
- (1) 4 g
(2) 400 g
(3) 4 kg
(4) 40 kg

- 5 Find the area of triangle ABC as shown below.

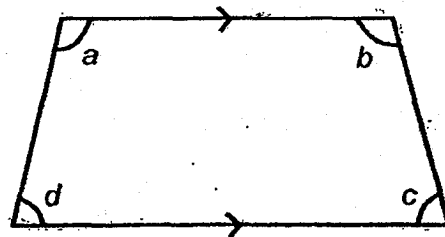


- (1) 84 m^2
- (2) 98 m^2
- (3) 168 m^2
- (4) 336 m^2
- 6 Find the area of a circle of radius 8 cm. Leave your answer in terms of π .
- (1) $8\pi \text{ cm}^2$
- (2) $16\pi \text{ cm}^2$
- (3) $64\pi \text{ cm}^2$
- (4) $256\pi \text{ cm}^2$

- 7 In the figure below, PQRS is a square and $ST = TR$. What type of triangle is triangle PQT?



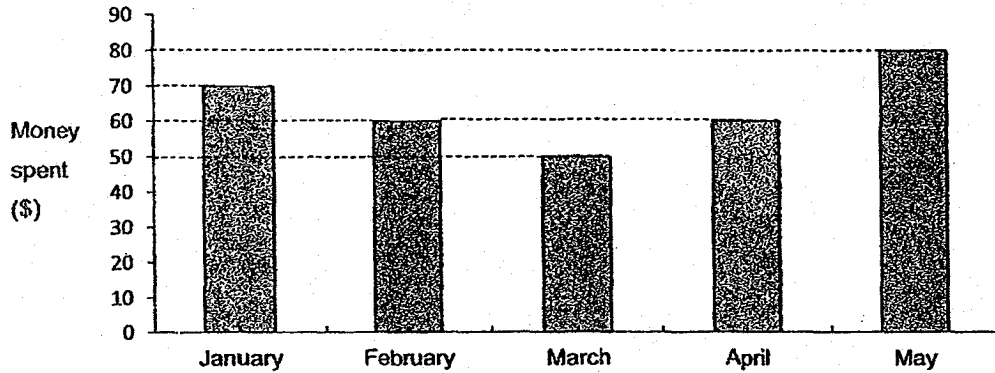
- (1) Isosceles triangle
(2) Equilateral triangle
(3) Right-angled triangle
(4) Obtuse-angled triangle
- 8 The figure below shows a trapezium. Which one of the following statements is true?



- (1) $\angle a = \angle c$
(2) $\angle b = \angle d$
(3) $\angle a + \angle b = \angle c + \angle d$
(4) $\angle a + \angle d = \angle b + \angle c$

Use the information below to answer questions 9 and 10.

Suraj was given \$100 every month. He spent some of the money and saved the rest. The bar graph shows the amount of money he spent from January to May.



9 How much did he spend in February and May altogether?

- (1) \$60
- (2) \$80
- (3) \$140
- (4) \$250

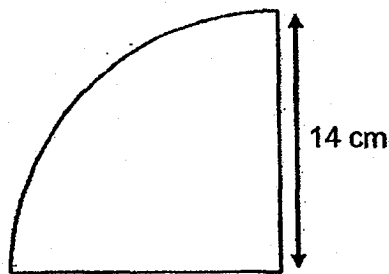
10 How much did he save in April?

- (1) \$20
- (2) \$40
- (3) \$60
- (4) \$80

- 11 Olivia is $\frac{2}{7}$ as heavy as Sze Wei. What is the ratio of the mass of Olivia to the total mass of Olivia and Sze Wei?

- (1) 2 : 7
- (2) 7 : 2
- (3) 2 : 9
- (4) 7 : 9

- 12 The figure below shows a quarter circle of radius 14 cm. Find its perimeter. Take $\pi = \frac{22}{7}$.



- (1) 11 cm
- (2) 22 cm
- (3) 39 cm
- (4) 50 cm

13 Rajah paid \$4.80 for a box of 20 pencils. What was the cost of each pencil?

(1) \$0.24

(2) \$0.48

(3) \$0.96

(4) \$2.40

14 Joan is m years old. Sara is thrice as old as Joan. Kavita is 8 years younger than Sara. What is Kavita's age? Express your answer in terms of m .

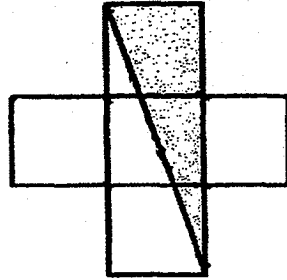
(1) $3m - 8$

(2) $3m + 8$

(3) $4m - 8$

(4) $4m + 8$

- 15 The figure is made up of 5 identical squares. What fraction of the figure is shaded?



- (1) $\frac{1}{3}$
(2) $\frac{2}{5}$
(3) $\frac{3}{10}$
(4) $\frac{7}{10}$



NANYANG PRIMARY SCHOOL

**FIRST SEMESTRAL EXAMINATION
2018**

PRIMARY 6

**MATHEMATICS
PAPER 1
(BOOKLET B)**

Total Duration for Booklets A and B: 1 hour

INSTRUCTIONS TO PUPILS

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

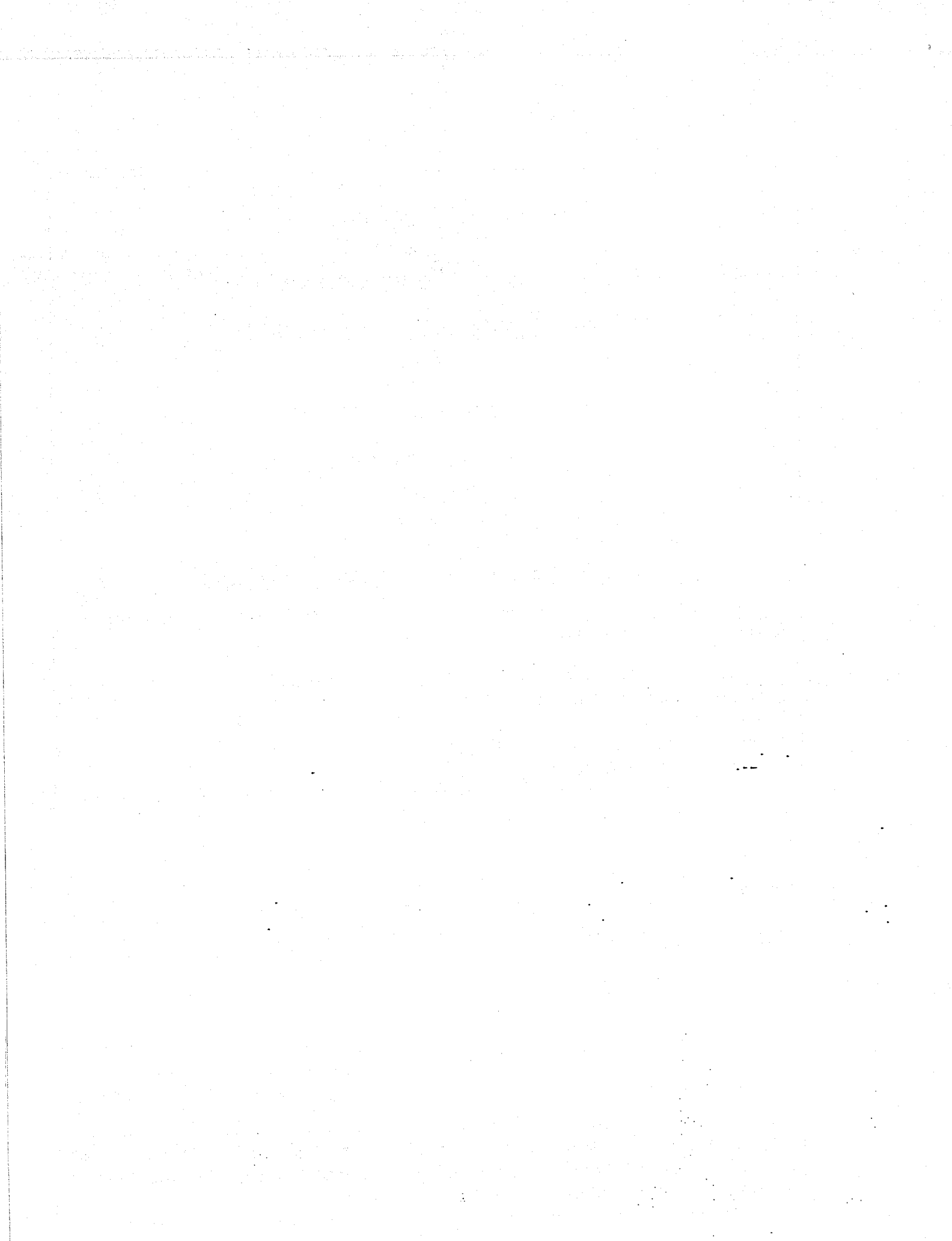
Name: _____ ()

Class: Primary 6 ()

Booklet B

/ 25

Any query on marks awarded should be raised by **17 May 2018**. We seek your understanding in this matter as any delay in the confirmation of marks will lead to delays in the generation of results.



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)

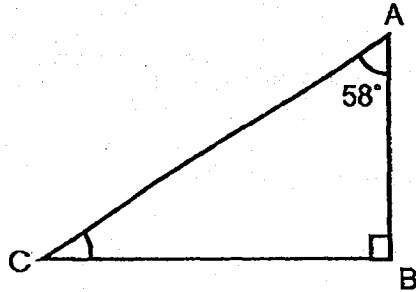
16 Express $\frac{5}{8}$ as a decimal.

Ans: _____

17 A cuboid of height 6 m has a square base of side 4 m. What is its volume?

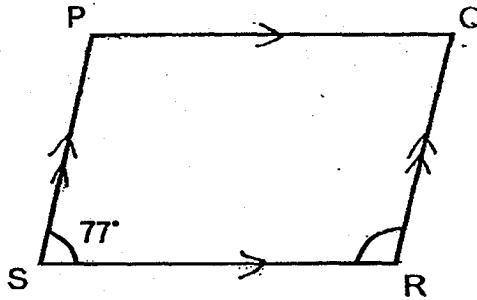
Ans: _____ m³

- 18 In the figure below, ABC is a triangle. $\angle ABC$ is a right angle and $\angle BAC = 58^\circ$. Find $\angle ACB$.



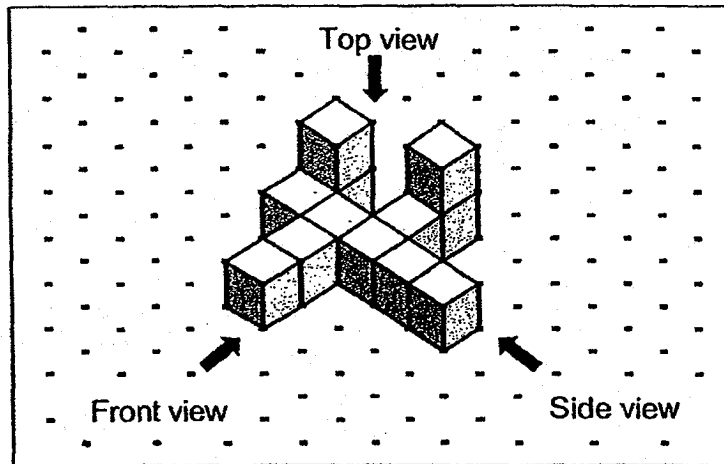
Ans: _____

- 19 In the figure below, PQRS is a parallelogram and $\angle PSR = 77^\circ$. Find $\angle QRS$.

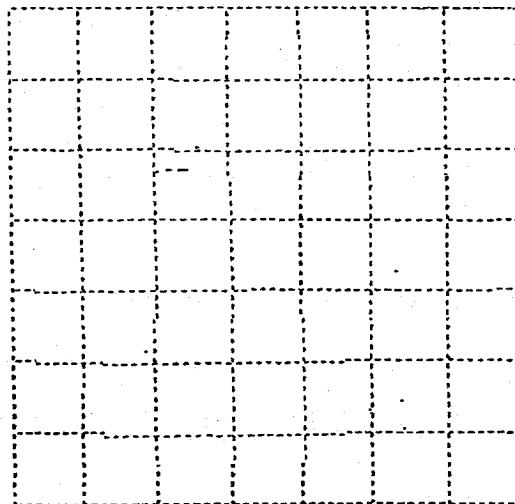


Ans: _____

- 20 The solid is made up of unit cubes. Draw the top view of the solid on the given square grid.



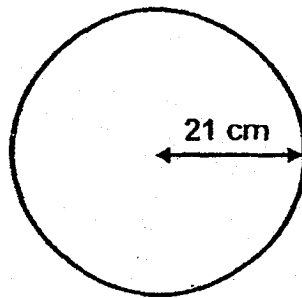
Top View



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 The figure below shows a circle of radius 21 cm. Find its circumference.

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

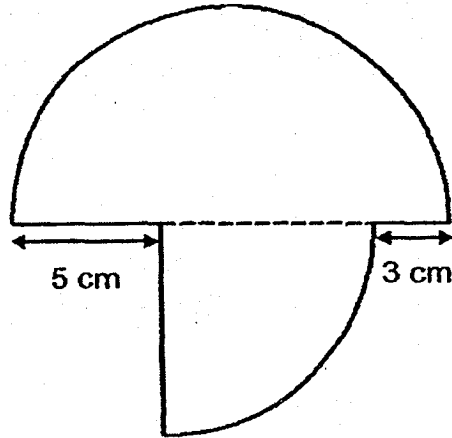


Ans: _____ cm

22 At a fruit stall, the cost of a pineapple is $\frac{7}{3}$ the cost of an orange. The cost of an apple is half the cost of the orange. The cost of the apple is \$0.60. What is the cost of the pineapple?

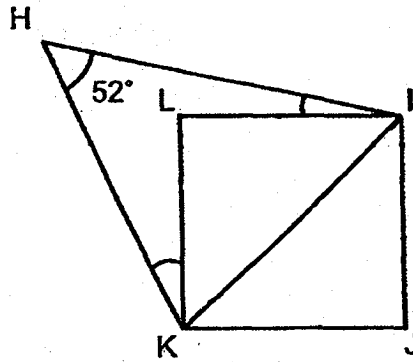
Ans: \$ _____

- 23 The figure below is made up of a semicircle and a quarter circle. The semicircle and the quarter circle have the same diameter. Find the perimeter of the figure. Leave your answer in terms of π .



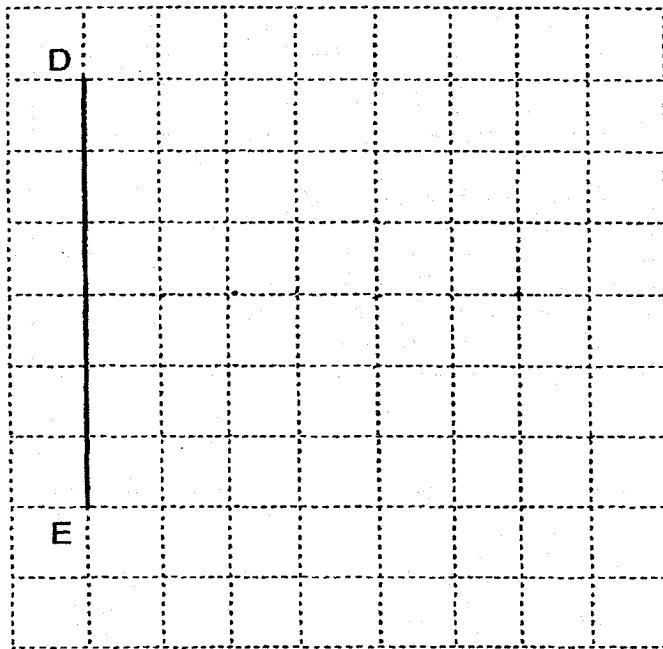
Ans: _____ cm

- 24 In the figure below, IJKL is a square and HIK is a triangle. $\angle IHK = 52^\circ$. Find the sum of $\angle HIL$ and $\angle HKL$.



Ans: _____ °

- 25 In the square grid below, construct an isosceles triangle DEF such that $DF = EF$. The base and height of triangle DEF are equal. The base, line DE, has been drawn for you.



-
- 26 Su Ling bought 2 calculators and 16 markers. Each calculator cost 12 times as much as each marker. She gave the cashier \$100 and received \$20 as change. What was the cost of 1 marker?

Ans: \$ _____

27 A number has 15 as a factor.

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
The number is an odd number.			
The number is a multiple of 5.			


28 A rope measuring $\frac{5}{8}$ m was cut equally into 6 shorter pieces. Leroy took 3 such pieces. How many metres of the rope did he take?

Ans: _____ m

- 29 Mrs Tay had some beads. The ratio of the number of blue beads to the number of red beads was $2 : 5$. After using 25 red beads to sew on a bag, the ratio of the number of blue beads to the number of red beads became $8 : 15$. How many blue beads did she have?

Ans: _____

- 30 The recipe shown below is used to bake 20 chocolate chip cookies.

<u>Chocolate chip cookies recipe</u>
(Bake 20 pieces) 
100 g of sugar
115 g of butter
150 g of flour
150 g of chocolate chips
1 large egg, 60 g

Mdm Chan wants to bake 50 chocolate chip cookies. How much flour does she need?

Ans: _____ g

End of Paper



NANYANG PRIMARY SCHOOL

**FIRST SEMESTRAL EXAMINATION
2018**

PRIMARY 6

**MATHEMATICS
PAPER 2**

Duration: 1 hour 30 minutes

INSTRUCTIONS TO PUPILS

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

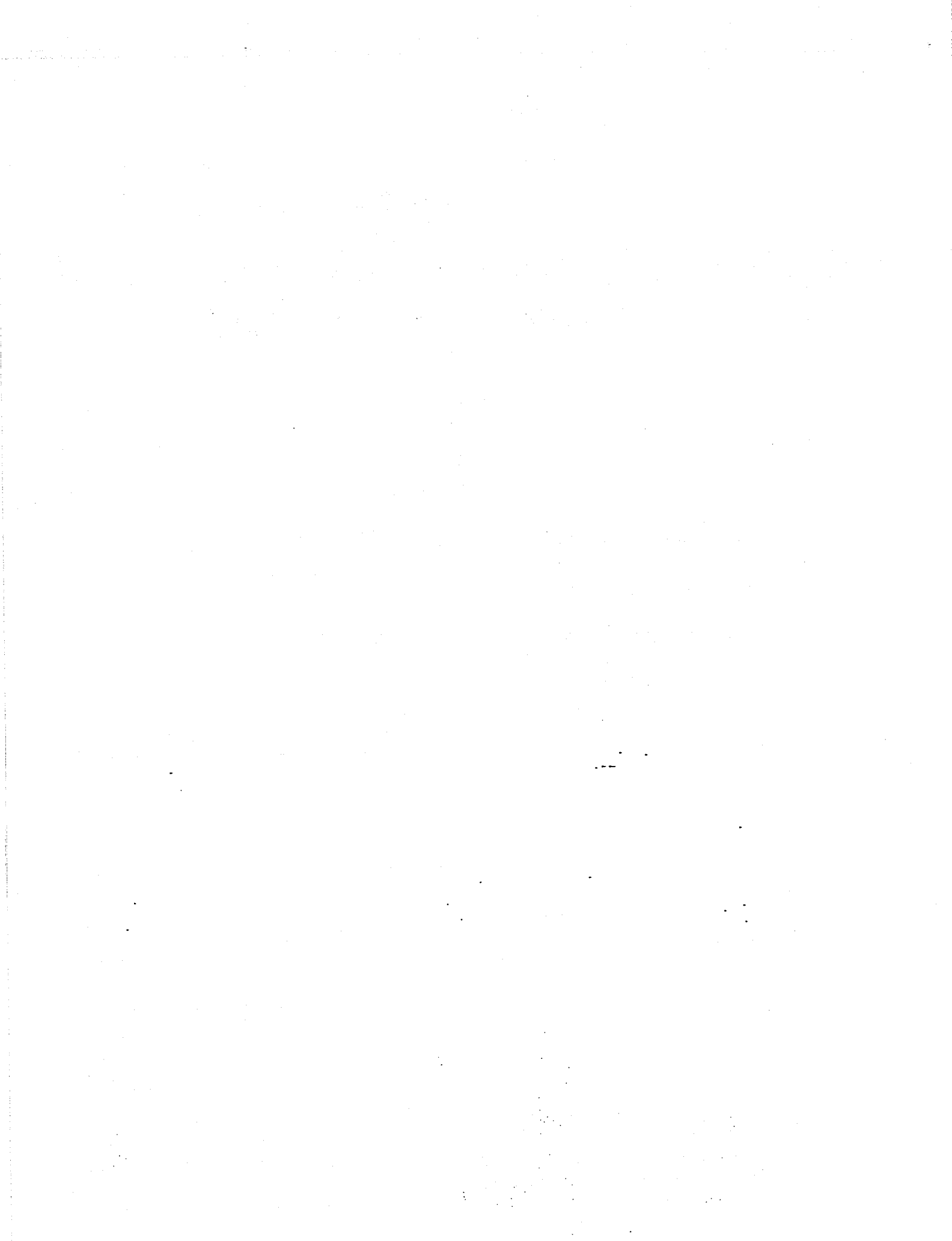
Name: _____ ()

Class: Primary 6 ()

Parent's Signature: _____

Booklet A	/ 20
Booklet B	/ 25
Paper 2	/ 55
Total	/ 100

Any query on marks awarded should be raised by **17 May 2018**. We seek your understanding in this matter as any delay in the confirmation of marks will lead to delays in the generation of results.



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 A circular wheel of diameter 30 cm made 2 complete turns. Find the distance covered by the wheel. Take $\pi = 3.14$.

Ans: _____ cm

- 2 The table below shows the favourite colours (red, blue, green and yellow) of a group of children. The number of children who chose yellow as their favourite colour is not shown.

Red	40
Blue	56
Green	54
Yellow	?

The total number of children who chose red and blue is the same as the total number of children who chose green and yellow. Find the number of children who chose yellow as their favourite colour.

Ans: _____

- 3 Mr Tang deposited \$4000 in a fixed deposit account at NY Bank which offered an interest rate of 2.3% per year. How much interest would Mr Tang receive at the end of 1 year?

Ans: \$ _____

- 4 A machine prints 450 labels in 18 min. At this rate, how long does the machine take to print 110 labels?

Ans: _____ min

- 5 The average of a group of numbers is 43. Three numbers, X, Y and Z, are removed from the group. The average of the remaining numbers remains as 43. The average of X and Y is 37. Find the value of Z.

Ans: _____

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)

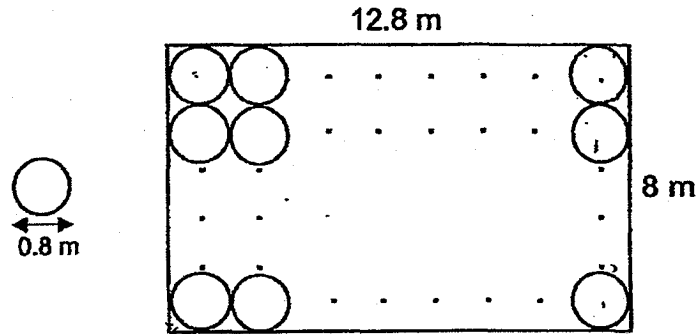
- 6 Luke is $1\frac{1}{3}$ times as tall as Steve. $\frac{3}{8}$ of Steve's height is 45 cm. Find the difference in height between the two boys.

Ans: _____ [3]

- 7 There are a total of 200 pens, pencils and erasers in a stationery shop. The number of pens and pencils are less than 100 each and they are both divisible by 3 and 4. The number of pens is twice the number of pencils and there are fewer erasers than pens. How many erasers are there?

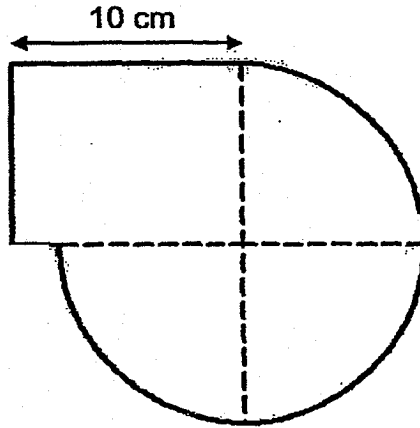
Ans: _____ [3]

- 8 The figure below shows a rectangular floor of a room measuring 12.8 m by 8 m. The rectangular floor was tiled using circular tiles of diameter 0.8 m. Each tile is in contact with those next to it. At most, how many of such tiles can be used to tile the rectangular floor?



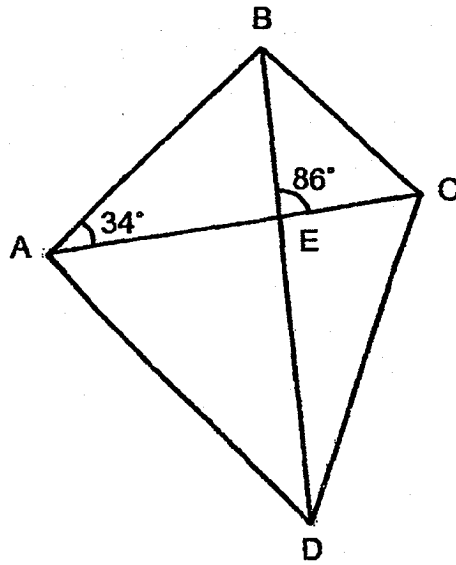
Ans: _____ [3]

- 9 The figure below is made up of 3 quarter circles and a rectangle. The rectangle has a length of 10 cm and an area of 80 cm^2 . Find the perimeter of the figure. Take $\pi = 3.14$.



Ans: _____ [3]

- 10 In the figure below, ABD and BCD are triangles. $\angle BAC = 34^\circ$, $\angle BEC = 86^\circ$ and $AC = AD$. $\angle BAD$ is a right angle and AEC is a straight line. Find $\angle BDC$.



Ans: _____ [3]

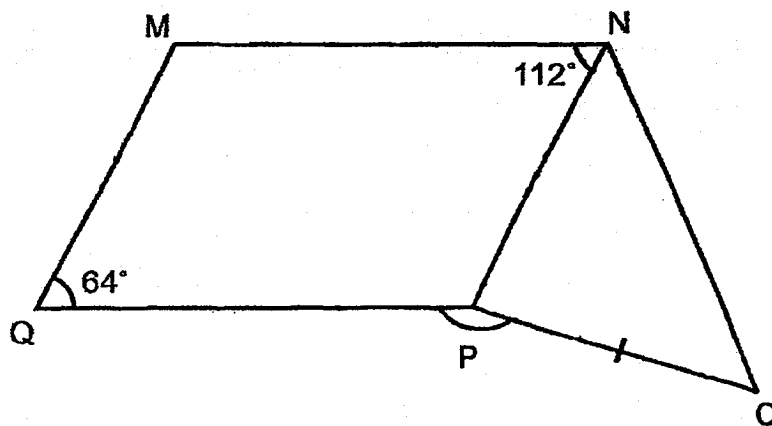
- 11** Mr Yusof's candy shop had some cola candies and some mint candies at first. He then made more cola candies and sold 357 mint candies. As a result, there was a 20% increase in the number of cola candies and a 68% decrease in the number of mint candies. In the end, the ratio of the number of cola candies to the number of mint candies was 9 : 4. Find the number of cola candies at first.

Ans: _____ [4]

- 12 A shopkeeper had a total of 960 T-shirts and caps. The ratio of the number of T-shirts to the number of caps is 5 : 3. After selling an equal number of T-shirts and caps, the ratio of the number of T-shirts left to the number of caps left was 13 : 3. How many caps did the shopkeeper sell?

Ans: _____ [4]

- 13 In the figure below, MNPQ is a parallelogram and NOP is an isosceles triangle. $\angle MQP = 64^\circ$, $\angle MNO = 112^\circ$ and $PN = PO$.



- (a) Find $\angle ONP$.
(b) Find $\angle OPQ$.

Ans: (a) _____ [2]

(b) _____ [2]

- 14 Brian had \$228 more than Jia Ming. After Brian spent $\frac{1}{3}$ of his money and Jia Ming spent $\frac{3}{4}$ of his money, the amount Brian had left was \$302 more than the amount Jia Ming had left. How much money did Brian have at first?

Ans: _____ [4]

- 15 Rachel and Elijah received a fixed amount of money every month. In the first month, Rachel spent \$5.60 per day and Elijah spent \$2.80 per day. Rachel had \$39.20 left when Elijah had spent all his money. In the second month, Rachel spent \$2.80 per day and Elijah spent \$5.60 per day. Rachel had \$140 left when Elijah had spent all his money. How much money did Rachel receive every month?

Ans: _____ [4]

16 Max, Ruby and Steve shared a packet of sweets. The ratio of the total number of sweets Ruby and Steve received to the number of sweets Max received was 2 : 3. After Max gave 9 sweets to Ruby and 23 sweets to Steve, the 3 children had the same number of sweets in the end.

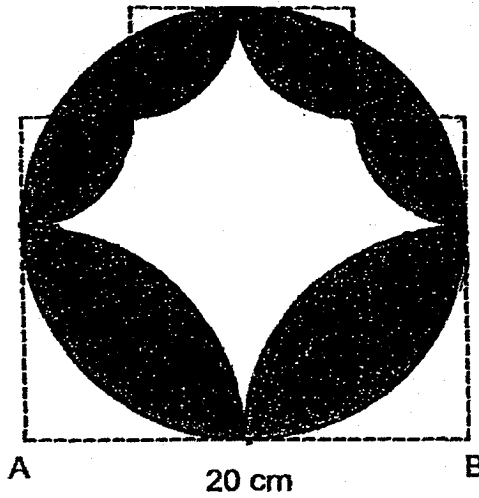
(a) How many sweets did Ruby have in the end?

(b) How many sweets did Steve have at first?

Ans: (a) _____ [4]

(b) _____ [1]

- 17 The figure below is made up of a circle, 2 identical large quarter circles and 4 identical smaller quarter circles. The length of AB is 20 cm. Find the area of the shaded part. Take $\pi = 3.14$.



Ans: _____ [5]

End of Paper

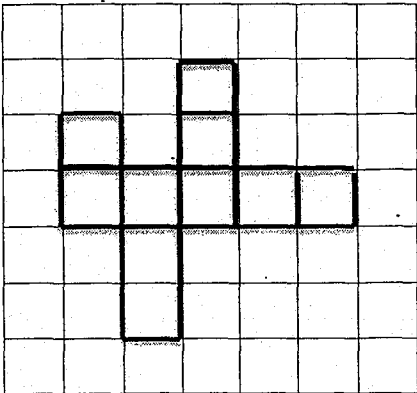
SCHOOL : NANYANG PRIMARY SCHOOL
 LEVEL : PRIMARY 6
 SUBJECT : MATH
 TERM : 2018 SA1

PAPER 1 BOOKLET A

Q1	Q2	Q3	Q4	Q5	Q6	Q7	Q8	Q9	Q10
4	4	4	2	1	3	1	4	3	2

Q11	Q12	Q13	Q14	Q15
3	4	1	1	3

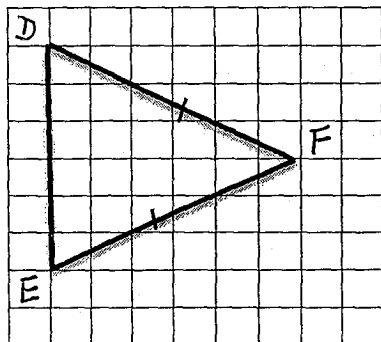
PAPER 1 BOOKLET B

Q16) 0.625
Q17) 96cm ³
Q18) $180 - 58 - 90 = 32^\circ$
Q19) $180 - 77 = 103^\circ$
Q20) 
Q21) $21 \times 2 = 42$ $\Pi d = 22/7 \times 42$ $= 132\text{cm}$
Q22) $\$0.60 \times 2 = \1.20 (0) $7\text{units} \rightarrow \\$0.40 \times 7 = \\$2.80$ $3\text{units} \rightarrow \1.20 $1\text{unit} \rightarrow \$1.20 \div 3 = \$0.40$

Q23) $R \rightarrow 5 + 3 = 8$
 $8 \times 2 = 16$
 $\frac{3}{4} \pi d = \frac{3}{4} \times \pi \times 16 = 12\pi$
 $12\pi + 5 + 3 + 8 = (12\pi + 16) \text{ cm}$

Q24) $90^\circ \div 2 = 45^\circ$
 $180^\circ - 52^\circ = 128^\circ$
 $128^\circ - 45^\circ - 45^\circ = 38^\circ$

Q25)



Q26) $16 + 12 + 12 = 40$
 $40 \text{ units} \rightarrow \$100 - \$20 = \80
 $1 \text{ unit} \rightarrow \$80 \div 40 = \$2$

Q27) The number is an odd number \rightarrow Not possible
 The number is a multiple of 5 \rightarrow True

Q28) $\frac{5}{6} \div 6 = \frac{5}{8} \times \frac{1}{6} = \frac{5}{48}$
 $\frac{5}{48} \times 3 = \frac{15}{48} = \frac{5}{16} \text{ m}$

Q29) Before After
 B : R 8 : 15
 2 : 5
 8 : 20

$20 - 15 = 5$
 $5 \text{ units} \rightarrow 25$
 $1 \text{ unit} \rightarrow 25 \div 5 = 5$
 $8 \text{ units} \rightarrow 5 \times 8 = 40$

Q30) $20c \rightarrow 150$
 $1c \rightarrow 150 \div 20 = 7.5$
 $50c \rightarrow 7.5 \times 50 = 375g$

PAPER 2

Q1) $2\pi d = 2 \times 3.14 \times 30 = 188.4 \text{ cm}$

Q2) $40 + 56 = 96$
 $96 - 54 = 42$

Q3)	$100\% \rightarrow \$4000$ $1\% \rightarrow \$4000 \div 100 = \40 $2.3\% \rightarrow \$40 \times 2.3 = \92
Q4)	$18 \text{ min} \rightarrow 450$ $1 \text{ min} \rightarrow 450 \div 18 = 25$ $110 \div 25 = 4.4 \text{ min}$
Q5)	$37 \times 2 = 74$ $43 \times 3 = 129$ $129 - 74 = 55$
Q6)	$3/8 \text{ s} \rightarrow 45$ $1/8 \text{ s} \rightarrow 45 \div 3 = 15$ $8/8 \text{ s} \rightarrow 15 \times 8 = 120 \text{ (s)}$ $120 \times 1 \frac{1}{3} = 160 \text{ (L)}$ $160 - 120 = 40 \text{ cm}$
Q7)	56
Q8)	$12.8 \div 0.8 = 16$ $8 \div 0.8 = 10$ $16 \times 10 = 160$
Q9)	$80 \div 10 = 8 \text{ (breadth of rect)}$ $10 - 8 = 2$ $8 \times 2 = 16 \text{ (d of o)}$ $\frac{3}{4} \Pi d = \frac{3}{4} \times \frac{3}{14} \times 16 = 37.68$ $37.68 + 2 + 10 + 8 = 57.68 \text{ cm}$
Q10)	$90^\circ - 34^\circ = 56^\circ \text{ } (\angle DAC)$ $(180^\circ - 56^\circ) \div 2 = 62^\circ \text{ } (\angle ADC)$ $180^\circ - 56^\circ - 86^\circ = 38^\circ \text{ } (\angle ADE)$ $62^\circ - 38^\circ = 24^\circ \text{ } (\angle BDC)$
Q11)	$68\% \rightarrow 357$ $32\% \rightarrow 357 \div 68 \times 32 = 168$ $4 \text{ units} \rightarrow 168$ $1 \text{ unit} \rightarrow 168 \div 4 = 42$ $9 \text{ units} \rightarrow 42 \times 9 = 378$ $120\% \rightarrow 378$ $1\% \rightarrow 378 \div 120 = 3.15$ $100\% \rightarrow 3.15 \times 100 = 315$
Q12)	$25 + 15 = 40$ $40 \text{ units} \rightarrow 960$ $12 \text{ units} \rightarrow 960 \div 40 \times 12 = 288$
Q13)	$112^\circ - 64^\circ = 48^\circ$ $180^\circ - 64^\circ = 116^\circ$ $180^\circ - 48^\circ - 48^\circ = 84^\circ$ $369^\circ - 116^\circ - 84^\circ = 169^\circ$

a) 48°

b) 160°

Q14) B: 12 units + \$228

J: 12units

$$1 - \frac{1}{3} = \frac{2}{3}$$

B: $\frac{2}{3} \times (12\text{units} + \$228)$

$$= 8\text{units} + \$152 \text{ (B left)}$$

$$1 - \frac{3}{4} = \frac{1}{4}$$

J: $\frac{1}{4} \times 12 \text{ units} = 3 \text{ units (J left)}$

$$8\text{units} + \$152 = 3\text{units} + \$302$$

$$5\text{units} \rightarrow \$302 - \$152 = \$150$$

$$1\text{unit} \rightarrow \$30$$

$$12\text{units} \rightarrow \$360$$

$$\$360 + \$228 = \$558$$

Q15) $4 - 1 = 3$ (savings diff)

$$3\text{units} \rightarrow \$140 - \$39.20 = \$100.80$$

$$1\text{unit} \rightarrow \$100.80 \div 3 = \$33.60$$

$$\$140 + \$33.60 = \$173.60$$

Q16) a)40

b)17

Q17) $\frac{1}{2} \times 5 \times 5 = 12.5$

$$\frac{1}{4} \pi r^2 = \frac{1}{4} \times 3.14 \times 5 \times 5 = 19.625 \text{ (small square)}$$

$$19.625 - 12.5 = 7.125$$

$$7.125 \times 4 = 28.5$$

$$\frac{1}{2} \times 10 \times 10 = 50$$

$$\frac{1}{4} \pi r^2 = \frac{1}{4} \times 3.14 \times 10 \times 10 = 78.5$$

$$78.5 - 50 = 28.5$$

$$28.5 \times 6 = 171$$

$$171 + 28.5 = 199.5\text{cm}^2$$