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**BEDOK VIEW SECONDARY SCHOOL  
END-OF-YEAR EXAMINATION 2020**

CANDIDATE  
NAME

REGISTER  
NUMBER

CLASS

**MATHEMATICS**  
**Secondary 1 Express**  
Paper 1

**4048/01**  
2 October 2020  
1 hour 15 minutes

Candidates answer on the Question Paper.

**READ THESE INSTRUCTIONS FIRST**

Write your index number and name on all the work you hand in.  
Write in dark blue or black pen.  
You may use an HB pencil for any diagrams or graphs.  
Do not use staples, paper clips, glue or correction fluid.

Answer **all** questions.

If working is needed for any question it must be shown with the answer.

Omission of essential working will result in loss of marks.

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

If the degree of accuracy is not specified in the question, and if the answer is not exact, give the answer to three significant figures. Give answers in degrees to one decimal place.

For  $\pi$ , use either your calculator value or 3.142, unless the question requires the answer in terms of  $\pi$ .

At the end of the examination, fasten all your work securely together.

The number of marks is given in brackets [ ] at the end of each question or part question.

The total of the marks for this paper is 50.

<b>Total</b>	
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Setter: Ms Tan SL

Parent's / Guardian's Signature: .....

This document consists of **11** printed pages.

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

3

Answer **all** the questions.

1 (a) Express the following numbers correct to 2 significant figures.

(i) 0.003928

*Answer (a)(i)* ..... [1]

(ii) 5919

*Answer (a)(ii)* ..... [1]

(b) In 2019, there were approximately 270 300 visitor arrivals to Universal Studios Singapore (USS). This value has been rounded to 4 significant figures.

(i) Write down the greatest possible number of visitor arrivals.

*Answer (b)(i)* ..... [1]

(ii) Write down the least possible number of visitor arrivals.

*Answer (b)(ii)* ..... [1]

2 (a) Express 1386 as a product of its prime factors.

*Answer (a)* ..... [2](b) Find the smallest positive integer  $k$  such that  $1386k$  is a perfect cube.*Answer (b) k =* ..... [1](c) Find the smallest positive integer  $k$  such that  $\frac{1386}{k}$  is a perfect square.*Answer (c) k =* ..... [1]

4

- 3 The school bell of Bedok East School goes off every 35 minutes while the school bell of Bedok West School goes off every 40 minutes. The first bell of both schools goes off at 07 25.

(a) When is the next time that the bells of both schools go off at the same time?

*Answer (a)* ..... [2]

- (b) If Bedok East School has 11 periods including recess on Monday and Bedok West School has 10 periods including recess on Monday, pupils of which school are dismissed earlier on Monday? How much earlier?

*Answer (b)* ..... by..... min [2]

---

5

- 4 (a) Showing your working clearly, find the value of  $\left[-\frac{5}{6}-\left(-\frac{2}{3}\right)\right]\div\left(\frac{2}{3}\right)^2$  without using a calculator.

*Answer (a)* ..... [2]

- (b) (i) Represent the numbers  $-\frac{3}{2}$ , 2.7, -3 and 0.5 on a number line.

*Answer (b)(i)* in the space provided [2]

- (ii) Hence, arrange the numbers in part (b)(i) in descending order.

*Answer (b)(ii)*....., ....., ....., ..... [1]

---

6

- 5 Iman cycled from Town  $A$  to Town  $B$  in  $x$  hours at an average speed of 35 km/h. On his return journey, he increased his speed by 25%. The time taken for the return journey was shorter by 30 minutes.

(a) Express the distance, in km, between Town  $A$  and Town  $B$  in terms of  $x$ .

*Answer (a)* .....km [1]

(b) Express the time taken, in hours, for the return journey.

*Answer (b)* .....hrs [1]

(c) Form an equation in terms of  $x$  and find the time taken for Iman to travel from Town  $A$  to Town  $B$ .

*Answer (c)* ..... hrs [3]

---

7

- 6 (a) The result of a number, when increased by 40%, is 126. Find the number.

*Answer (a)* ..... [2]

- (b) A fruit seller bought 200 pears for \$80. Upon closer examination, he discovered that some of the pears were rotten and had to be discarded. The fruit seller sold the remaining pears at 50 cents each and made a profit of \$12. Calculate the percentage of pears that were discarded.

*Answer (b)* ..... % [3]

- (c) A watch is priced at €430 in Paris. Calculate how much Germaine needs to pay in SGD (S\$) if the exchange rate is S\$1 = € 0.6368.

*Answer (c)* S\$ ..... [2]

---

8

- 7 (a) Draw and label triangle  $ABC$  such that  $AB = 7.9$  cm,  $\angle BAC = 48^\circ$  and  $AC = 4.8$  cm. [2]
- (b) Measure and write down the length of  $BC$ .
- (c) Measure and write down the size of  $\angle ACB$ .

*Answer (a)*

*Answer (b)*  $BC = \dots\dots\dots$ cm [1]

*Answer (c)*  $\angle ACB = \dots\dots\dots^\circ$  [1]

---

9

8 (a) The first four terms in a sequence are 53, 47, 41, 35.

(i) Find an expression, in terms of  $n$ , for the  $n^{\text{th}}$  term,  $T_n$ , of the sequence.

*Answer (a)(i)* ..... [2]

(ii) Explain why it is not possible for a term in the sequence to be a multiple of 2.

*Answer (a)(ii)* ..... [1]

(b) The  $n^{\text{th}}$  term of another sequence is given by  $T_n = \frac{3n+6}{150-4n}$ .

(i) Use the formula to find  $T_9$ .

*Answer (b)(i)* ..... [1]

(ii) The value of  $T_k$  can be simplified to  $\frac{17}{30}$ . Find the value of  $k$ .

*Answer (b)(ii)*  $k =$  ..... [2]

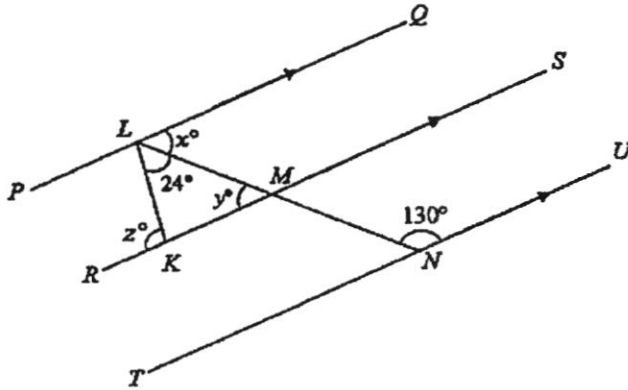
(iii) Suggest a value of  $n$  such that the value of  $T_n$  is greater than 1.

*Answer (b)(iii)*  $n =$  ..... [1]

---

10

9 Find the values of  $x$ ,  $y$  and  $z$  in the following diagram, stating your reasons clearly.



Answer  $x =$  ..... [2]

$y =$  ..... [1]

$z =$  ..... [2]

11

- 10 An ice-cream company conducted a survey on 30 people to determine the preferred ice-cream flavour. The flavours listed were Chocolate (C), Vanilla (V), Strawberry (S) and Mango (M). The survey findings were presented as shown below.

C	V	S	M	M
S	M	C	M	M
M	M	V	S	S
S	M	C	M	V
C	M	S	S	C
V	V	S	C	S

- (a) Complete the table below.

Flavour	Tally	Frequency
Chocolate		
Vanilla		
Strawberry		
Mango		

[2]

- (b) Write down the flavour that is the most popular.

*Answer (b)* ..... [1]

- (c) If the survey findings were represented using a pie chart, calculate the angle of the sector that represents the people who preferred Vanilla flavour for their ice-cream.

*Answer (c)* .....<sup>o</sup> [2]

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END OF PAPER



**BEDOK VIEW SECONDARY SCHOOL  
END-OF-YEAR EXAMINATION 2020**

CANDIDATE  
NAME

REGISTER  
NUMBER

CLASS

**MATHEMATICS**  
**Secondary 1 Express**  
Paper 2

**4048/02**  
**7 October 2020**  
**1 hour 30 minutes**

Additional Materials: Answer Paper

**READ THESE INSTRUCTIONS FIRST**

Write your index number and name on all the work you hand in.  
Write in dark blue or black pen.  
You may use an HB pencil for any diagrams or graphs.  
Do not use staples, paper clips, glue or correction fluid.

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<b>Total</b>	
--------------	--

Setter: Ms Tan SL

Parent's / Guardian's Signature: .....

This document consists of 6 printed pages.

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

3

Answer **all** the questions.

1 (a) Simplify  $-3[7y+2(-3x)]-2(x-3y)$ . [2]

(b) Express  $\frac{3(2y-x)}{9} - \frac{7(7x-4y)}{45}$  as a single fraction in its simplest form. [3]

(c) Given that  $x = -4$ ,  $y = \frac{1}{4}$  and  $z = 9$ , find the value of

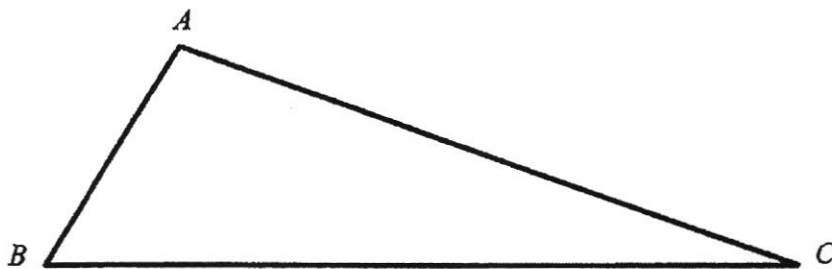
(i)  $3yz - 9x$ , [2]

(ii)  $\frac{x^2}{y^2} - \frac{1}{z}$ . [2]

2 (a) Calculate  $\frac{(-48.1)^2}{\sqrt[3]{28} \times 0.876}$ . Write down the first five digits on your calculator display. [1]

(b) Write your answer to part (a) correct to 3 significant figures. [1]

(c) Figure  $ABC$  below is a triangle.  $AB = (5x - 7)$  cm,  $AC = (4x + 3)$  cm and  $BC = (9x - 9)$  cm.

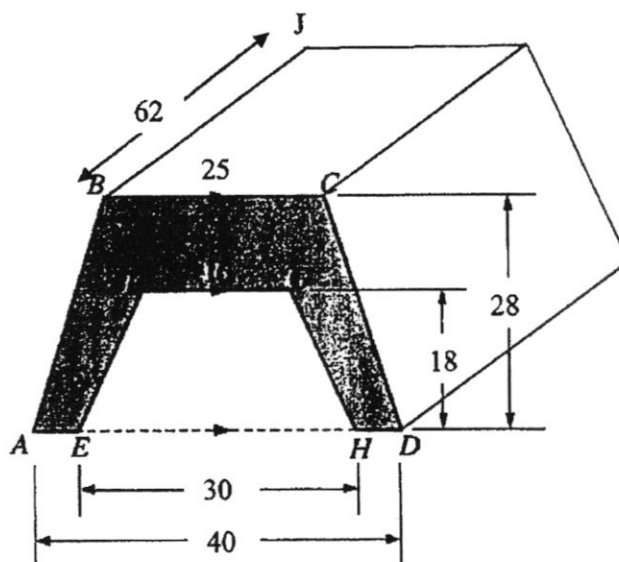


(i) Find an expression, in terms of  $x$ , for the perimeter of triangle  $ABC$ . [1]

(ii) The perimeter of triangle  $ABC$  is 41 cm. Form an equation in terms of  $x$  and solve it. [2]

(iii) Find the length of the longest side of the triangle. [1]

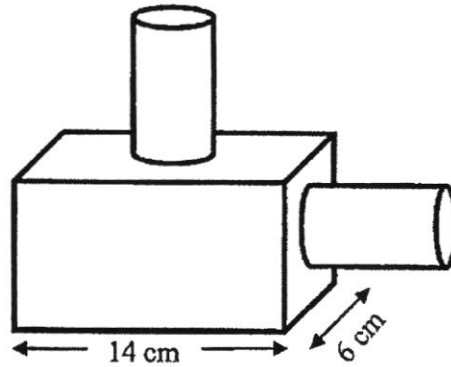
- 3 The figure below shows a stool.  $AD = 40$  cm,  $EH = 30$  cm,  $BC = 25$  cm and  $FG = 16$  cm. The distances of  $BC$  and  $FG$  from the ground are 28 cm and 18 cm respectively.



- (a) Find the shaded cross-sectional area  $ABCDHGFE$ . [3]
- (b) Given that the length of  $BJ$  is 62 cm, find the volume of the stool, assuming the stool is a solid. [2]
-

5

- 4 A solid is formed by mounting 2 identical cylinders on a rectangular prism as shown in the figure below. The cylinders have a radius of 4 cm and a height of 9 cm. The cuboid is 14 cm long, 6 cm wide and has a height that is  $\frac{2}{3}$  the height of the cylinder.



- (a) Find the volume of the solid. [3]  
 (b) Find the total surface area of the solid. [3]  
 (c) The solid is melted down to form a cube. Find the length of each side of the cube. [2]

- 5 (a) Part of a restaurant bill is shown below.

Delicious Thai Restaurant	
Pineapple rice	\$11.50
Stir-fried chicken with basil	\$8.80
Green papaya salad	\$7.90
Green curry	\$9.20
Thai fish cakes	\$6.30

- (i) There is a service charge of 10% and GST is at 7%. Calculate the total cost of the meal. [2]  
 (ii) The restaurant does not impose a service charge for takeout. Mr Ho says he could have saved 10% of the total cost obtained in part (a) if he chose to do a takeout instead. Is he correct? Explain your answer. [2]
- (b) In an election for the president of the student council, Benjamin received 240 votes. This was 60% of the total number of votes.
- (i) Find the total number of votes. [1]  
 (ii) Among the total votes, 18 votes were spoilt while the rest voted for Nazri. Express the number of votes Nazri received as a percentage of the votes that were not spoilt. [2]

- 6 (a) A regular  $n$ -sided polygon has an exterior angle of  $x^\circ$ .
- (i) Find an expression for  $n$  in terms of  $x^\circ$ . [1]
- (ii) If the size of the interior angle is 2 times the size of the exterior angle  $x^\circ$ , find the size of the exterior angle. [2]
- (iii) Hence, find  $n$ . [1]
- (b) A polygon has  $n$  sides. When the number of sides is tripled, the interior angle is increased by  $30^\circ$ . Find the value of  $n$ . [3]

- 7 (a) Convert 6 m/s to kilometres per hour. [2]
- (b) Ms See borrows \$30 000 from a bank to renovate her house. The bank charges simple interest at a rate of 2.9% per annum. Calculate the amount of interest she has to pay if she takes 7 years to repay the loan. [2]
- (c) The table below shows the parking charges at a certain shopping centre.

1 <sup>st</sup> hour	\$2.40
Every subsequent $\frac{1}{2}$ hour or part thereof	\$0.70

- (i) Calculate the parking charges if Ms Zhang parks her car for 2 hr 27 minutes. [2]
- (ii) If Ms Zhang has a cashcard value of \$7, what is the maximum number of complete hours she can park her car at the shopping centre? [2]

**END OF PAPER**

## Bedok View Secondary School

Mathematics Department

Marking Scheme

<b>Year</b>	2020	<b>Level &amp; Stream</b>	1E
<b>Type of Exam</b>	EYE	<b>Subject</b>	Math Paper 1

No.	Working		Remarks
1	(ai)	0.0039 [B1]	
	(aii)	5900 [B1]	
	(bi)	270 349 [B1]	
	(bii)	270 250 [B1]	

[Total : 4 m]

No.	Working		Remarks
2	(a)	$  \begin{array}{r l}  2 & 1386 \\  3 & 693 \\  3 & 231 \\  7 & 77 \\  & 11 \\  \hline  &   \end{array}  $ [M1] $1386 = 2 \times 3^2 \times 7 \times 11$ [A1]	
	(b)	$k = 2^2 \times 3 \times 7^2 \times 11^2 = 71148$ [B1]	
	(c)	$k = 2 \times 7 \times 11 = 154$ [B1]	

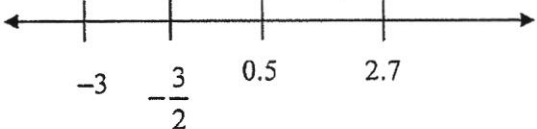
[Total : 4 m]

No.	Working		Remarks
3	(a)	$35 = 5 \times 7$ $40 = 2^3 \times 5$ LCM of 35 and 40 = $2^3 \times 5 \times 7 = 280$ [M1] 280 mins = 4 hr 40 mins 07 25 + 4 hr 40 mins = 12 05 [A1]	
	(b)	Bedok East - $11 \times 35$ mins = 385 mins = 6 hr 25 mins Bedok West - $10 \times 40$ = 400 mins = 6 hr 40 mins 6hr 40 mins - 6 hr 25 mins [M1] = 15 mins Bedok East is earlier by 15 mins [A1]	

[Total : 4 m]

**Bedok View Secondary School**  
Mathematics Department

Marking Scheme

No.	Working	Remarks
4	<p>(a) <math display="block">\left[ -\frac{5}{6} - \left( -\frac{2}{3} \right) \right] \div \left( \frac{2}{3} \right)^2</math></p> $= \left[ -\frac{5}{6} + \frac{2}{3} \right] \div \frac{4}{9}$ $= \left[ -\frac{5}{6} + \frac{4}{6} \right] \times \frac{9}{4} \quad \text{[M1]}$ $= \left( -\frac{1}{6} \right) \times \frac{9}{4}$ $= -\frac{9}{24}$ $= -\frac{3}{8} \quad \text{[A1]}$	
	<p>(bi)</p>  <p>[B1] for proper number line with arrow on the right and left and lines to indicate each value position [B1] for all 4 values in correct order</p>	
	<p>(bii) <math>2.7, 0.5, -\frac{3}{2}, -3</math> [B1]</p>	

[Total : 5 m]

## Bedok View Secondary School

Mathematics Department

Marking Scheme

No.	Working		Remarks
5	(a)	Distance = $35x$ km [B1]	
	(b)	Time = $\left(x - \frac{1}{2}\right)$ hrs [B1]	
	(c)	Expressing distance based on new speed $= \frac{125}{100} \times 35 \times \left(x - \frac{1}{2}\right)$ km $= \frac{175}{4} \times \left(x - \frac{1}{2}\right)$ km [M1] $\frac{175}{4} \times \left(x - \frac{1}{2}\right) = 35x$ [M1] $\frac{35x}{4} = \frac{175}{8}$ $x = 2.5$ hours [A1]	

[Total : 5 m]

No.	Working		Remarks
6	(a)	$140\% \text{ ----- } 126$ $100\% \text{ ----- } \frac{126}{140} \times 100$ [M1] $= 90$ [A1]	
	(b)	Let the no. of pears discarded be $x$ . Amount collected from sale of remaining pears $= (200 - x) \times 0.5$ $0.5(200 - x) - 80 = 12$ $100 - 0.5x - 80 = 12$ [M1] $0.5x = 8$ $x = 16$ [M1] Percentage discarded $= \frac{16}{200} \times 100\%$ $= 8\%$ [A1]	Alternative method : $\frac{80 + 12}{0.50} = 184$ $200 - 184 = 16$
	(c)	$S\$1 \text{ ----- } \text{€ } 0.6368$ $S\$ \frac{1}{0.6386} \text{ ----- } \text{€ } 1$ $S\$ \frac{1}{0.6368} \times 430 \text{ ----- } \text{€ } 430$ [M1] $= S\$ 675.25$ (2 d.p) [A1]	

[Total : 7m]



## Bedok View Secondary School

Mathematics Department

Marking Scheme

No.	Working		Remarks
8	(ai)	$T_n = 53 - 6(n-1) \quad [\text{M1}]$ $= 53 - 6n + 6$ $= 59 - 6n \quad [\text{A1}]$	
	(aii)	The terms are all <u>odd numbers</u> and will never be a multiple of 2. <b>[B1]</b>	
	(bi)	$T_9 = \frac{3(9) + 6}{150 - 4(9)}$ $= \frac{11}{38} \quad [\text{B1}]$	
	(bii)	$\frac{3k + 6}{150 - 4k} = \frac{17}{30}$ $30(3k + 6) = 17(150 - 4k) \quad [\text{M1}]$ $90k + 180 = 2550 - 68k$ $158k = 2550 - 180$ $k = 15 \quad [\text{A1}]$	
	(biii)	Accept any number 21 and above <b>[B1]</b>	$\frac{3n + 6}{150 - 4n} > 1$ $3n + 6 > 150 - 4n$ $7n > 144$ $n > \frac{144}{7}$ $n > 20.57$

[Total : 7 m]

## Bedok View Secondary School

Mathematics Department

Marking Scheme

No.	Working	Remarks
9	$\angle x = 180^\circ - 130^\circ$ [M1] $= 50^\circ$ (interior angles) [A1]  $\angle x = \angle y = 50^\circ$ (alternate angles) [B1]  $\angle z = 24^\circ + 50^\circ$ [M1] $= 74^\circ$ [A1] (exterior angles of triangle or alternate angles)	Deduct P if reasons are not given. (1P per question)

[Total : 5 m]

No.	Working	Remarks															
10	<p>(a)</p> <table border="1" style="margin-left: 20px;"> <thead> <tr> <th>Flavour</th> <th>Tally</th> <th>Frequency</th> </tr> </thead> <tbody> <tr> <td>Chocolate</td> <td>      </td> <td>6</td> </tr> <tr> <td>Vanilla</td> <td>    </td> <td>5</td> </tr> <tr> <td>Strawberry</td> <td>        </td> <td>9</td> </tr> <tr> <td>Mango</td> <td>        </td> <td>10</td> </tr> </tbody> </table> <p>[B2] for all 4 correct values            [B1] for 3 correct values</p>	Flavour	Tally	Frequency	Chocolate		6	Vanilla		5	Strawberry		9	Mango		10	
Flavour	Tally	Frequency															
Chocolate		6															
Vanilla		5															
Strawberry		9															
Mango		10															
	(b) Mango [B1]																
	(c) $\text{Vanilla} = \frac{5}{30} \times 360$ [M1] $= 60^\circ$ [A1]																

[Total : 5 m]

## Bedok View Secondary School

Mathematics Department

Marking Scheme

<b>Year</b>	2020	<b>Level &amp; Stream</b>	1E
<b>Type of Exam</b>	EYE	<b>Subject</b>	Math Paper 2

No.	Working		Remarks
1	(a)	$-3[7y+2(-3x)]-2(x-3y)$ $= -3[7y-6x]-2x+6y$ $= -21y+18x-2x+6y \quad [\text{M1}]$ $= 16x-15y \quad [\text{A1}]$	
	(b)	$\frac{3(2y-x)}{9} - \frac{7(7x-4y)}{45}$ $= \frac{6y-3x}{9} - \frac{49x-28y}{45} \quad [\text{M1}]$ $= \frac{5(6y-3x)-49x+28y}{45} \quad [\text{M1}]$ $= \frac{30y-15x-49x+28y}{45}$ $= \frac{-64x+58y}{45} \quad [\text{A1}]$	
	(ci)	$3yz-9x$ $= 3\left(\frac{1}{4}\right)(9)-9(-4) \quad [\text{M1}]$ $= \frac{27}{4}+36$ $= 42\frac{3}{4} \quad [\text{A1}]$	Accept 42.75
	(cii)	$\frac{x^2}{y^2} - \frac{1}{z}$ $= \frac{(-4)^2}{\left(\frac{1}{4}\right)^2} - \frac{1}{9} \quad [\text{M1}]$ $= \frac{16}{1} - \frac{1}{9}$ $= 25\frac{8}{9} \quad [\text{A1}]$	

[Total : 9 m]

## Bedok View Secondary School

Mathematics Department

Marking Scheme

No.	Working		Remarks
2	(a)	869.76 [B1]	
	(b)	870 (3 s.f) [B1]	
	(ci)	Perimeter = $(5x - 7) + (4x + 3) + (9x - 9)$ $= 5x + 4x + 9x - 7 + 3 - 9$ $= (18x - 13) \text{ cm}$ [B1]	
	(cii)	$18x - 13 = 41$ [M1] $18x = 54$ $x = \frac{54}{18} = 3$ [A1]	
	(ciii)	The lengths are $(4 \times 3) + 3 = 15 \text{ cm}$ , $(5 \times 3) - 7 = 8 \text{ cm}$ , $(9 \times 3) - 9 = 18 \text{ cm}$ The longest side is 18 cm. [B1]	Deduct U for no units. (1 U for entire question)

[Total : 6 m]

No.	Working		Remarks
3	(a)	Area of big trapezium $ABCD$ $= \frac{1}{2}(25 + 40) \times 28$ $= 910 \text{ cm}^2$ Area of small trapezium $EFGH$ $= \frac{1}{2}(16 + 30) \times 18$ $= 414 \text{ cm}^2$ Cross-sectional area = $910 - 414$ [M1] $= 496 \text{ cm}^2$ [A1]	[M1]
	(b)	Volume = Area $\times$ Height $= 496 \times 62$ [M1] $= 30\,752 \text{ cm}^3$ [A1]	

[Total : 5 m]

**Bedok View Secondary School**  
Mathematics Department

Marking Scheme

No.	Working	Remarks
4	<p>(a) Volume of cuboid = <math>14 \times 6 \times \left(\frac{2}{3} \times 9\right)</math> [M1]  <math>= 504 \text{ cm}^3</math></p> <p>Volume of 2 cylinders = <math>2 \times \pi \times 4 \times 4 \times 9</math> [M1]  <math>= 904.7786</math></p> <p>Total volume = <math>504 + 904.7786</math>  <math>= 1408.7786</math>  <math>= 1410 \text{ cm}^3</math> (3 s.f) [A1]</p>	
	<p>(b) <del>Surface area of 2 cylinders</del>  <del><math>= 2\pi rh \times 2</math></del>  <del><math>= 2 \times \pi \times 4 \times 9 \times 2</math></del> [M1]  <del><math>= 144\pi</math></del></p> <p><del>Surface area of rectangular prism</del>  <del><math>= (2 \times 14 \times 6) + (2 \times \frac{2}{3} \times 9 \times 14) + (2 \times \frac{2}{3} \times 9 \times 6)</math></del> [M1]  <del><math>= 408 \text{ cm}^2</math></del></p> <p><del>Total Surface area</del>  <del><math>= 144\pi + 408</math></del>  <del><math>= 860.389 \text{ cm}^2</math></del>  <del><math>= 860 \text{ cm}^2</math> (3 s.f) [A1]</del></p>	
	<p>(c) Volume = <math>x^3</math>  <math>x = \sqrt[3]{1408.7786}</math> [M1]  <math>= 11.210</math>  <math>= 11.2 \text{ cm}</math> (3 s.f) [A1]</p>	

[Total : 8 m]

**Bedok View Secondary School**  
Mathematics Department

## Marking Scheme

No.	Working		Remarks
5	(ai)	$\begin{aligned} \text{Total} &= \$11.50 + \$8.80 + \$7.90 + \$9.20 + \$6.30 \\ &= \$43.70 \quad \text{[M1]} \\ \text{With 10\% Service Charge} &= 1.1 \times 43.70 \\ &= \$48.07 \\ \text{With 7\% GST} &= 1.07 \times 48.07 \\ &= \$51.43 \text{ (2 d.p.) [A1]} \end{aligned}$	Deduct U for no units (1 U for entire question)
	(aii)	$\begin{aligned} \text{Total Add GST} &= 1.07 \times 43.70 \\ &= \$46.76 \text{ (2 d.p.)} \\ \text{He saved } & \$51.43 - \$46.76 \\ &= \$4.67 \quad \text{[M1]} \\ \text{If he saved 10\%, he should have saved } & 0.1 \times 51.43 \\ &= \$5.14 \\ \text{No, he is not correct.} & \quad \text{[A1]} \end{aligned}$	
	(bi)	$\begin{aligned} 60\% & \text{-----} 240 \\ \text{Total} & \text{-----} 100\% \text{-----} \frac{240}{60} \times 100 \\ &= 400 \text{ votes [B1]} \end{aligned}$	
	(bii)	$\begin{aligned} \text{No of votes that were not spoilt} &= 400 - 18 \\ &= 382 \\ \text{Nazri received} &= 382 - 240 \\ &= 142 \\ \text{Percentage of votes Nazri received} &= \frac{142}{382} \times 100 \% \quad \text{[M1]} \\ &= 37.1727 \\ &= 37.2 \% \text{ (3 s.f) [A1]} \end{aligned}$	

[Total : 7 m]

**Bedok View Secondary School**  
Mathematics Department

Marking Scheme

No.	Working		Remarks
6	(ai)	$n = \frac{360}{x}$ [B1]	
	(aii)	$2x = 180 - x$ [M1] $3x = 180$ $x = 60^\circ$ [A1]	
	(aiii)	$n = \frac{360}{60} = 6$ [B1]	
	(b)	$\frac{(3n-2) \times 180}{3n} - \frac{(n-2) \times 180}{n} = 30$ [M1] $\frac{540n - 360}{3n} - \frac{(540n - 1080)}{3n} = 30$ $\frac{540n - 360 - 540n + 1080}{3n} = 30$ [M1] $\frac{720}{3n} = 30$ $720 = 90n$ $n = \frac{720}{90} = 8$ [A1]	

[Total : 7 m]

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Marking Scheme

No.	Working		Remarks
7	(a)	$6 \text{ m/s} = \frac{6}{1000} \times 3600 \text{ [M1]}$ $= 21.6 \text{ km/h [A1]}$	Accept $21\frac{3}{5} \text{ km/h}$ Deduct U for no units (1U for entire question)
	(b)	$\text{Interest} = \frac{30000 \times 2.9 \times 7}{100} \text{ [M1]}$ $= \$6090 \text{ [A1]}$	
	(ci)	$\text{Parking Charges} = \$2.40 + 3 \times 0.7 \text{ [M1]}$ $= \$4.50 \text{ [A1]}$	
	(cii)	$\$7 - \$2.40 = \$4.60$ $\frac{4.60}{0.7} = 6.57 \text{ half hours [M1]}$ $= 6 \text{ half hours (round down)}$ $= 3 \text{ hours}$ $\text{Total} = 1 + 3$ $= 4 \text{ hours [A1]}$	

[Total : 8 m]