School CCK S1 Mathematics 2nd term Test I (2023-2024)

Name:_____

Class:_____(_____)

S.1 Mathematics 2nd term Test I (2023-2024)

Time allowed : 40 minutes

(Total marks: 70 marks)

/70

Unless otherwise specified, the use of calculator is allowed.

Section A1: Show your steps clearly. (28 marks)

1. The following data show the number of siblings of a group of students in S1A.

0	2	2	0	1	2	3	2	1	1
2	0	1	3	2	1	2	2	1	4

Complete the following frequency distribution table for the above data. (3 marks)

Number of siblings	Tally	Frequency
0		
1		
2		
3		
4		
	Total	

Each column @1A

2. According to the instructions below, write down the approximated values. (4 marks)

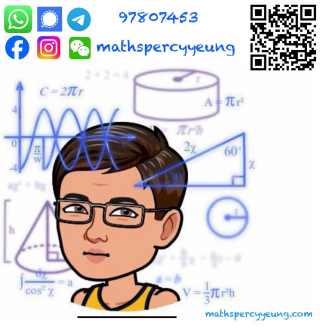
(a) Round up 3827 to the nearest hundred. (a) _____

(b) Round off 1.685 to 3 significant figures. (b) _____

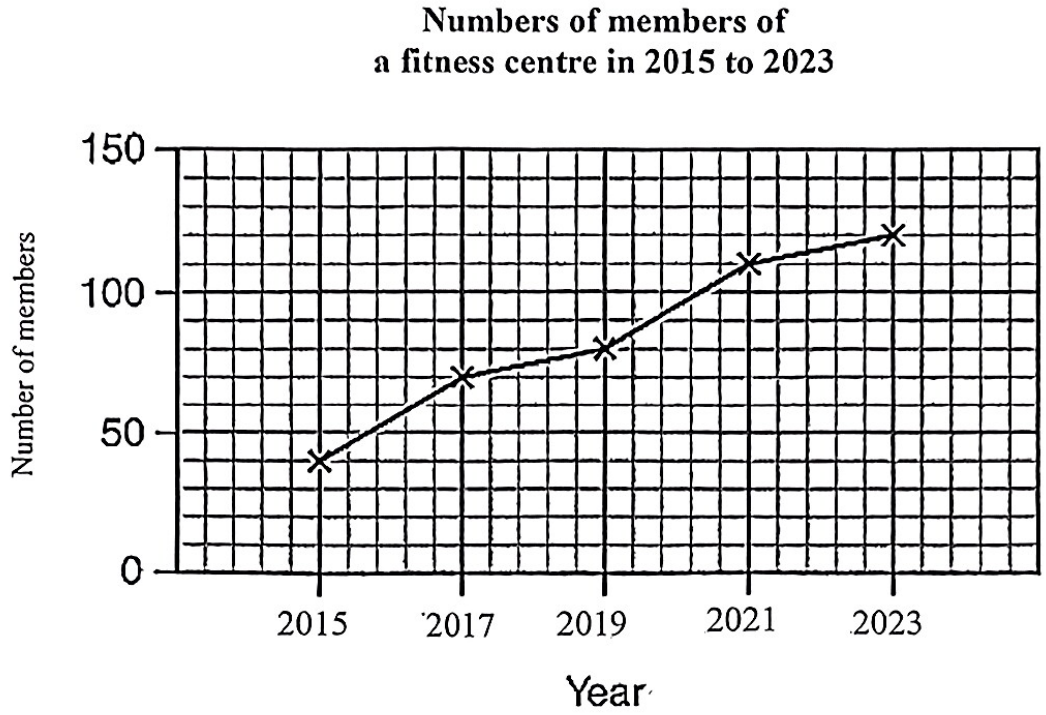
(c) Round down 150.06 to 1 decimal place. (c) _____

(d) Round up 0.7212 to 2 significant figures. (d) _____

@1A



3. The broken line graph below shows the number of members of a fitness centre in 2015 to 2023.



(a) According to the above graph, complete the following table. (2 marks)

Year	Number of members
2017	_____ _____
_____ _____	110

@1A

(b) Complete the following sentence for predicting the trend of the number of members of the fitness centre in 2024. (1 mark)

According to the trends of the line segments, it appears that the number of members of the fitness centre will most likely _____ _____ in 2024. 1A

4. The IQ test results of 20 children are as follows:

105	102	101	102	107	117	110	119	114	126
122	128	120	133	135	130	144	143	144	147

(a) Complete the following stem-and-leaf diagram to present the above data. (4 marks)

1A

Stem (10)	Leaf (1) 1A
	1M + 1A

(b) If the IQ test result of a child is 135 or above, the child is said to be gifted. Esther claims that only 4 children are gifted. Do you agree? Explain your answer. (1 mark)

1 (f.t.)

5. The following table shows the attendance of students of a school yesterday:

	Number of students
Present	702
Absent	18
Total	720

Find the percentage of students who were absent to school yesterday. (3 marks)

6. The length of a truck is 40% greater than the length of a bus. If the length of the bus is 12 m, find the length of the truck. (3 marks)

7. The cost price of a shirt is \$12. If the shirt is sold at \$60, find

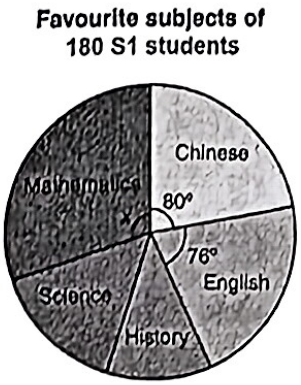
(a) the profit, (2 marks)

(b) the profit per cent. (3 marks)

The marked price of a wooden chair in a furniture store was \$550. Martin bought a wooden chair and got a discount of \$198. Find the discount per cent on the wooden chair. (2 marks)

Section A(2): Show your steps clearly. (21marks)

1. The pie chart shows the favourite subjects of 180 S1 students. There are 54 students whose favourite subjects are Mathematics.



(a) Find x. (2 marks)

(b) Find the number of students like Science or History the most. (2 marks)

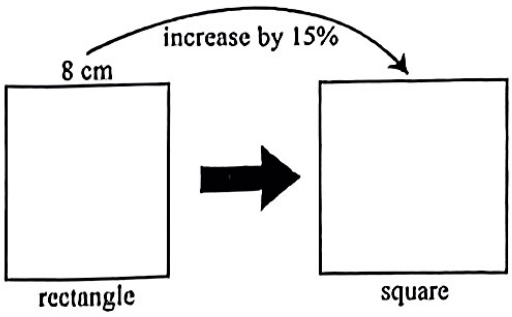
(c) If the number of students whose favourite subjects are Science is 6 more than that of History, write down the number of students whose favourite subjects are Science. (1 mark)

John has 80 stamps. The number of stamps that Fanny has is 20% less than the number John has.

(a) How many stamps does Fanny have? (2 marks)

b) If John gives some stamps to Fanny, will they have the same number of stamps? Explain your answer. (3 marks)

3. The width of a rectangle is 8 cm. If the width of the rectangle is increased by 15%, it becomes a square.



(a) Find the length of a side of the square. (2 marks)

(b) Find the area of the rectangle. (1 mark)

(c) Find the percentage increase in the area when the rectangle becomes the square. (2 marks)

Miss Cheung wants to buy a jacket with marked price of $300 at a discount of 10%.

(a) Find the selling price of the jacket. (2 marks)

(b) She can use one of the methods below to pay for the jacket:

I. Use her VIP card and get an extra 20% discount.

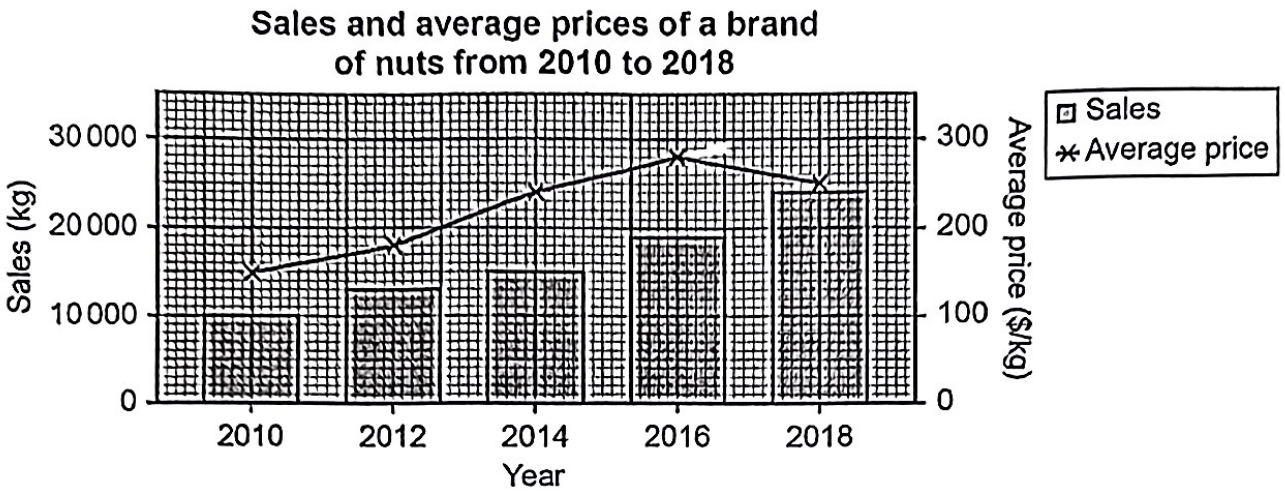
II. Use a cash coupon of $50.

Which method should Miss Cheung use in order to pay less amount? Explain your answer.

(4 marks)

Section B: Show your steps clearly. (21marks)

1. The chart below shows the sales (correct to the nearest kg) and the average prices (in $/kg) of a brand of nuts from 2010 to 2018.



(a) In which year were the sales of the nuts the highest? What was the average price of the nuts in that year? (2 marks)

In _____-_-_-_____- _, the sales of the nuts were the highest.

The average price of the nuts in that year was ____ _____ _ ($/kg).

(b) Find the percentage change in the sales of the nuts from 2010 to 2018. (3 marks)

2. The back-to-back stem-and-leaf diagram below shows the scores of boys and girls in S1A in an examination.

Scores of boys and girls in S1A in an examination

Boys						Girls					
				Leaf (1)		Stem (10)	Leaf (1)				
					7	4	4	6	8		
				9	1	5	0	0	1	5	7
		7	6	5	4	6	2	9	9		
9	8	7	5	3	1	7	1	4	5		
		7	7	5	3	8	0				
			a	4	2	9					

The passing score of the examination is 50.

(a) Find the overall percentages of students in the class who pass the examination. (3 marks)

The required percentages

(b) *The difference between the highest* marks and the lowest marks in the class is 54. Find the value *of a.* (2 marks)

3. A toy shop sold a toy car at \$300, with a profit of 20% and it sold a doll with a loss \$30 and the loss percentage is 20%.

(a) Find the cost of the toy car. (1 mark)

(b) Find the cost of the doll. (1 mark)

(c) *Find the overall profit per cent or loss per cent.* (4 marks)

4. The following table shows the prices of some items in a supermarket.

Item	Price ($)
A pack of chicken wings	30.9
A carton of milk	14.4
A bottle of Vitamin C supplement	99.3

Mr Lam wants to buy 3 packs of chicken wings, 8 cartons of milk and a bottle of Vitamin C supplement.

(a) Estimate the total amount to be paid by rounding up the price of each item to the nearest dollar. (2 marks)

(b) If Mr Lam has $320, does he have enough money to buy all the items? Explain your answer. (1 mark)

(c) Any customer who purchases $310 or above can get a coupon. Can Mr Lam get a coupon? Explain your answer. (2 marks)

End of Paper