

**Read the following instructions:**

Answer **all** the questions on the answer sheet.

Read the instructions on the answer sheet.

Use **pencil** only.

The use of dictionaries is NOT permitted during the exam.

You must complete the answer sheet within the time limit.

At the end of the test, hand in your answer sheet.

**Additional materials:** Ruler and eraser.

Students are permitted to use calculators.

- 1 Three schools conducted a survey among their Grade 6 students to determine their favourite subject. The table below shows the name of the school and the number of students who prefer each subject.

School	Number of students who prefer			
	Mathematics	Science	Arabic	Islamic Studies
Al-Sidq	20	15	5	10
Al-Amanah	25	10	15	10
Al-Adalah	30	25	20	25

What is the percentage of students who prefer Arabic subject at Al-Amana School to its students?

- A 10%
- B 19%
- C 20%
- D 25%

- 2** In a cooking competition, participants were asked to choose several ingredients to create a recipe of their choice. The ingredients were divided into three groups as shown in the table below. Participants must choose 5 ingredients from the three groups and must select at least one ingredient from each group.

Group 1	Group 2	Group 3
Meat	Basmati Rice	Carrot
Chicken	Egyptian Rice	Zucchini
Fish	Bulgur	Potato
Shrimp	Pasta	Eggplant

Which set of components **cannot be** chosen by the participants?

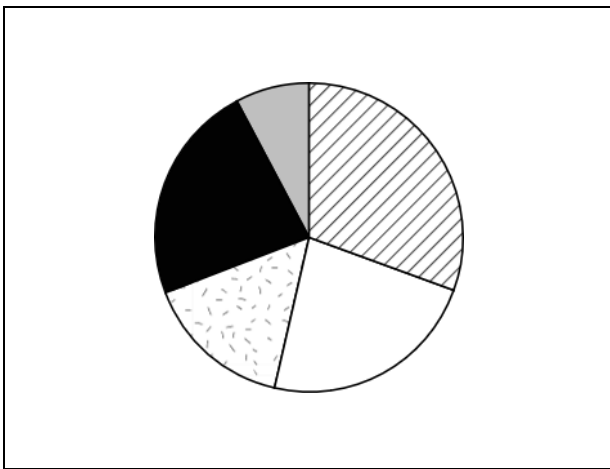
- A** Chicken, Basmati rice, Carrot, Zucchini, Eggplant
- B** Shrimp, Egyptian rice, Bulgur, Zucchini, Potato
- C** Fish, Bulgur, Pasta, Carrot, Zucchini
- D** Meat, Carrot, Zucchini, Potato, Eggplant

- 3 Fadhel asked a group of students about their blood type.  
The table below shows the number of students for each blood type.

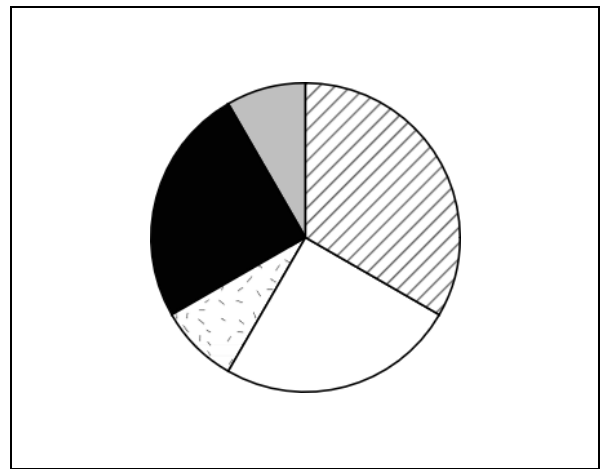
Blood Type	A	B	AB	O	Don't known
Number of Students	40	30	10	30	10

Which of the following representations can represent the data collected by Fadhel?

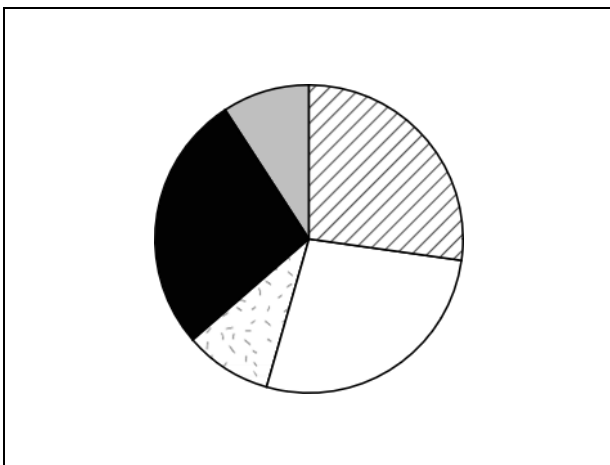
**A**



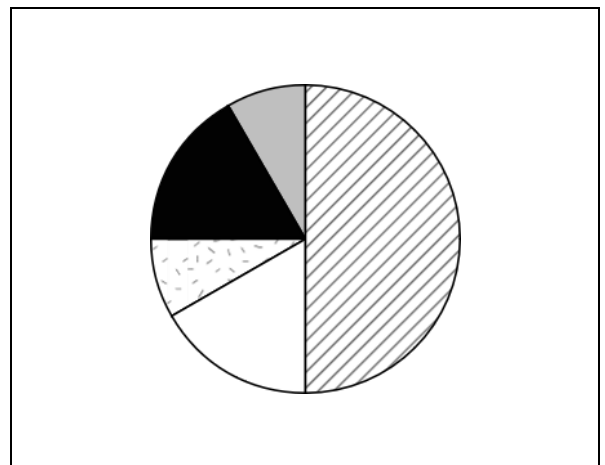
**B**



**C**



**D**



- 4 Salman wants to send several parcels to four different regions via Bahrain Post using the express mail service. The table below shows Bahrain post cost of shipping per half kilograms using express mail service.

Destination	For the first half kilogram or part thereof (BD)	For each additional half kilogram (BD) or part thereof
Gulf countries	7.000	1.000
Other Arab countries	8.000	1.000
Europe	9.000	3.000
Australia and New Zealand	10.000	4.000

The table below shows the destination and weight of each shipment for Salman.

Destination	The weight of the shipment in grams.
Kuwait	456
Egypt	657
France	821
Australia	500

What is the total cost of shipping Salman's four parcels?

- A BD 34
- B BD 38
- C BD 42
- D BD 43

- 5** The Shanghai Maglev Train is considered the fastest train in the world, with a maximum speed of approximately 431 km/h. During Mohamed's trip to China, he and his friends took the train and paid ¥ 500 according to the ticket prices in the table below.

	<b>Regular Ticket</b>	<b>VIP Ticket</b>
<b>Price (¥)</b>	40	100

Some friends bought a regular ticket, and others bought a VIP ticket.

What is the maximum number of friends who bought a VIP ticket?

- A** 1
- B** 3
- C** 5
- D** 10

- 6** To prepare one serving of Mango Dessert, Marwa needs 3 pieces of cheese for every 1 kg of mango. Marwa has 36 pieces of cheese and 2 kg of mango, and she wants to prepare the dessert using all the cheese pieces.

What is the additional amount of mango that Marwa needs to prepare the dessert?

- A** 10 Kg
- B** 12 Kg
- C** 23 Kg
- D** 34 Kg

- 7** Susan wants to travel from Munich Airport in Germany to Dublin Airport in Ireland, with the flight duration not exceeding 3 hours and the price not exceeding £101. She has searched for available flights on the day she wants to travel and had the information recorded in the table below.

<b>Flight</b>	<b>Departure Time from Munich Airport</b>	<b>Arrival Time at Dublin Airport</b>	<b>Flight Price (£)</b>
<b>A</b>	15:25	16:55	79
<b>B</b>	11:25	13:00	101
<b>C</b>	08:25	09:55	111
<b>D</b>	09:00	12:10	91
<b>E</b>	09:25	11:30	100
<b>F</b>	00:10	02:10	95
<b>G</b>	19:30	22:00	99

The time in the table above refers to the airport time in the respective country, as Munich time is one hour ahead of Dublin time.

How many flights can Susan travel on?

- A** 3
- B** 4
- C** 5
- D** 6



- 8** Hamza has a plot of land next to his house that he wants to dedicate a part thereof for planting home plants. He decided to fence off a rectangular area of  $32 \text{ m}^2$ , with one of its four sides adjacent to the wall of his house, and the remaining three sides are made of wood.

Hamza asked the worker to build the fence with exact dimensions, and the worker told him that the cost of one metre of length is BD 5.

What is the minimum cost Hamza can pay the worker to fence the land on three sides?

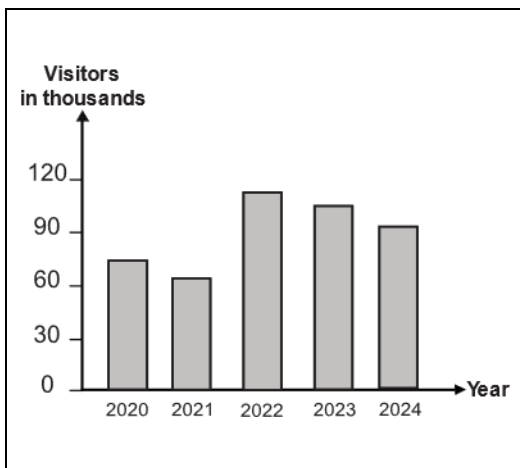
- A** BD 60
- B** BD 80
- C** BD 100
- D** BD 120

- 9 The number of visitors to the national museum in a certain country has been recorded for the past five years, and the results are shown in the table below.

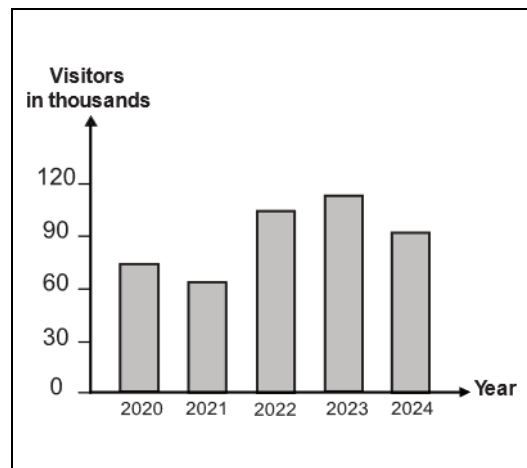
Year	2020	2021	2022	2023	2024
Number of visitors (in thousands)	73	62	107	102	92

Which of the following graphs represents the number of visitors to that national museum each year?

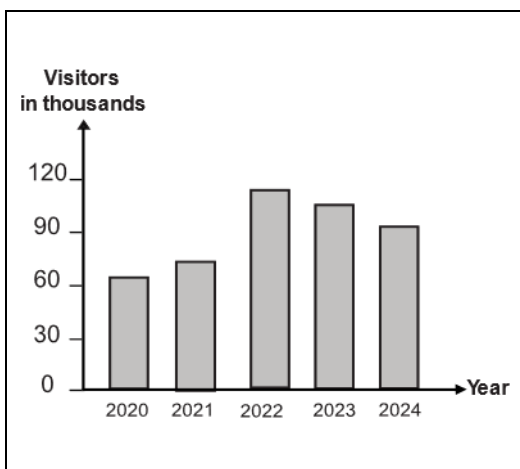
**A**



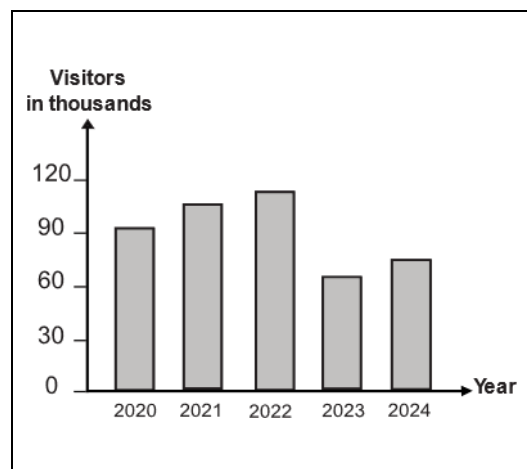
**B**



**C**



**D**



- 10** For security reasons, the director of an institution requested that the employee change the unlock code of the security monitoring device every day during the month of August. The employee devised a method to remember the code as follows:

- The code consists of 8 digits.
- The first two digits from the left represent the day's date.
- The second two digits from the left represent the month's date.
- The third two digits from the left represent the sum of the first two digits from the left.
- The last two digits represent the product of the first two digits from the left plus the sum of the second two digits from the left.

Today's date is the 17 August.

What code did the employee set today?

- A** 08170808
- B** 17800815
- C** 17081508
- D** 17080815

- 11** Mubarak follows a precise calorie-counting diet as much as possible, aiming to consume food in 4 meals a day according to a specific schedule. The table below shows Mubarak's daily meals and the range of allowed calories per meal.

<b>Meal</b>	First	Second	Third	Fourth
<b>Calories</b>	300 - 350	420 - 440	560 - 600	450 - 480

Mubarak knows that his body's natural calorie-burning rate ranges between 1800 and 2000 calories per day. Additionally, Mubarak burns calories through extra tasks and exercises at the gym, ranging between 2300 and 2700 calories.

What is the maximum calorie difference Mubarak can lose in one day?

- A** 2230 calories
- B** 2600 calories
- C** 2830 calories
- D** 2970 calories

- 12** Ahmed asked his friend Jassim about the time now, and Jassim replied that it was 9:22 because he thought his watch was 8 minutes behind, but it was actually 13 minutes ahead.

What is the actual time when Ahmed asked?

- A** 9:01
- B** 9:09
- C** 9:27
- D** 9:43

- 13** An educational official requested one of the employees to provide him with the failure rates in four specific schools. The table below shows the total number of students and the failure rates for each school.

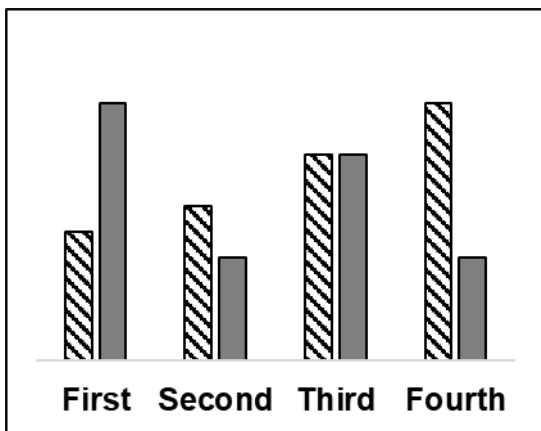
School	Total number of students in the school	Failure rate
First	200	25%
Second	150	20%
Third	180	30%
Fourth	160	10%

What is the number of students who passed the exams in the four schools?

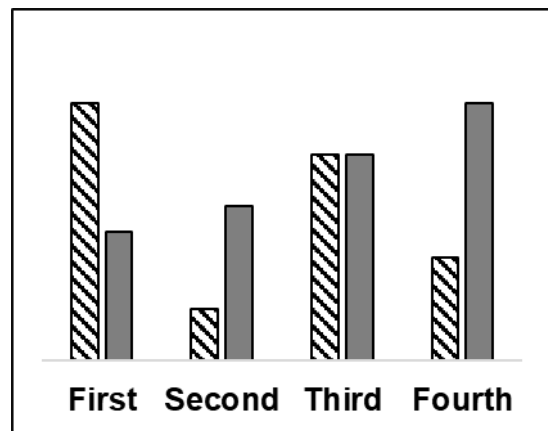
- A** 150
- B** 315
- C** 540
- D** 690

- 14** In one of the Quran Tajweed and memorisation centres for children, four batches of Quran Tajweed and memorisation graduated together. If the first batch of Tajweed is twice the first batch of memorisation, and the second batch of Tajweed is two-thirds of the second batch of memorisation, while the third batch of Tajweed and memorisation were equal, and the fourth batch of Tajweed is less than half of the fourth batch of memorisation.

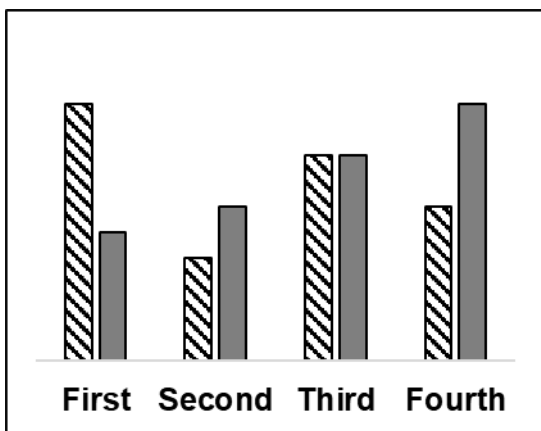
Which of the following graphs could represent the four batches of Tajweed and memorisation for this centre?

**A**

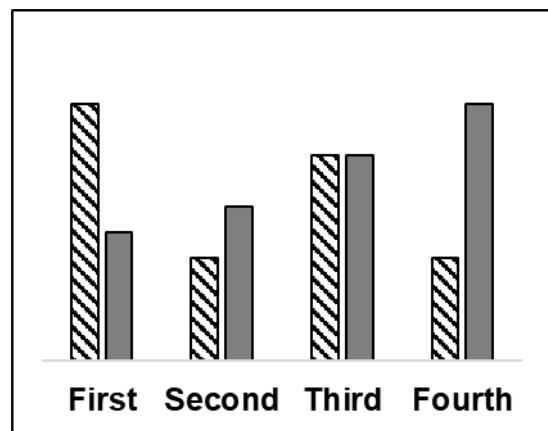
Tajweed  Memorisation 

**B**

Tajweed  Memorisation 

**C**

Tajweed  Memorisation 

**D**

Tajweed  Memorisation 

- 15** A fish shop sells two sizes of shrimp (medium and large). The price per kilogram for medium size is BD 1.750, and for large size is BD 2.200. The total revenue from selling both types of shrimp on a certain day was BD 140.000.

How many kilograms of large shrimp did the fish shop sell on that day?

- A** 30 kg
- B** 35 kg
- C** 36 kg
- D** 40 kg



- 16** A company sells incense boxes through delivery companies, where the price of one box is BD 8.000, excluding VAT (10%). There is also an additional delivery cost.

The delivery company calculates the VAT at a rate of (10%) on the price of the product, including the delivery cost.

Fatima paid BD 29 for three incense boxes, including VAT and delivery.

What amount did the delivery company charge Fatima for delivering her order?

- A** BD 0.867
- B** BD 2.400
- C** BD 2.600
- D** BD 5.000

- 17** Yaqoub and his wife are planning to travel to a country in East Asia during the summer vacation. While searching for available hotels on the dates they specified, for a duration of three days, they found several available options.

The table below shows the hotel rating (stars), distance from the city centre, price of a double room, and free services available.

Hotel	Rating of hotel (stars)	Price of a double room per night (\$)	Distance from the city centre (Km)	Free service
<b>First</b>	3	100	10	Breakfast
<b>Second</b>	4	140	13	Not available
<b>Third</b>	4	145	12	Breakfast
<b>Fourth</b>	5	260	7	Breakfast - Swimming pool

Yaqoub prefers having free service, the hotel should not be more than 15 km away from the city centre, the rating of the hotel should be no less than 4 stars, and he wants to pay the least possible cost for his stay.

Which hotel is suitable for Yaqoub's preferences?

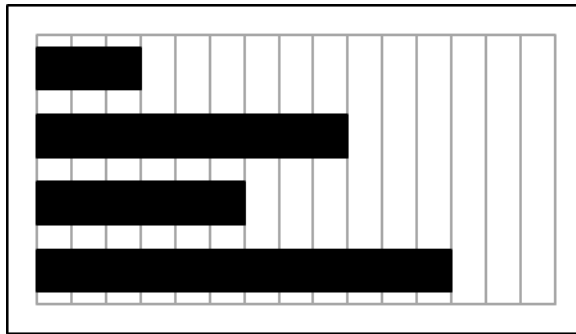
- A** First
- B** Second
- C** Third
- D** Fourth

- 18** In a printing press, there are three printers. In the past two hours, the first printer printed 700 sheets every 20 minutes, the second printed 700 sheets every 30 minutes, and the third printed 1200 sheets every 40 minutes.

How many sheets were printed in total in the past two hours in the printing press?

- A** 5200
- B** 5300
- C** 9100
- D** 10600

- 19 Ebrahim included the following chart in his doctoral thesis, which relates to the number of startups in a group of countries, but he forgot to add labels to the chart.



Which of the following data sets can represent the graph above, regardless of the order?

**A**

Country	W	X	Y	Z
Number of startups	50	120	100	150

**B**

Country	W	X	Y	Z
Number of startups	30	60	90	120

**C**

Country	W	X	Y	Z
Number of startups	20	40	60	70

**D**

Country	W	X	Y	Z
Number of startups	90	30	25	35

- 20** During National Day celebrations, a school management decided to distribute 100 numbered cards from 1 to 100 to the first 100 students entering through the gate in the morning.





The math teacher asked the students holding cards whose sum of the digits is divisible by 7 to participate in the next game.

What is the number of students participating in the next game?





- A** 5
- B** 8
- C** 13
- D** 14

- 21** Faisal designed an electronic programme where the user is required to enter a number between 1 and 20. The programme then squares the entered number, multiplies the entered number by 21, adds it to the result of the previous operation, and then adds 7 to the total figure.

The programme displays a picture based on the nature of the resulting final number, as it will not be out of the described range, in the table below.

The displayed picture	Final result
	Divisible by 7 only
	Divisible by 13 only
	Divisible by both 7 and 29
	Prime number

If number 13 is entered into the programme, what picture will appear?

- A 
- B 
- C 
- D 

- 22** Mahmoud wants to travel for tourism and leisure with his wife, adult son, and child daughter. He searched for available trips at a travel agency. The table below shows the tourist destinations, their prices, and the departure and return dates.

Destination	Price for Adult BD	Price for Child BD	Travel Date	
			Departure	Return
Turkey	455	400	17/6/2024	25/6/2024
Sri Lanka	375	335	15/6/2024	26/6/2024
Singapore	495	435	18/6/2024	27/6/2024
Malaysia	499	429	17/6/2024	30/6/2024

Mahmoud knows that his son has his last final exam at university on 16/6/2024, his wife must return to work on 1/7/2024, and she needs two days of rest after travelling before returning to work. He wants to spend as much time on vacation as possible.

What amount will Mahmoud pay to the travel agency for choosing the appropriate trip?

- A** BD 1460
- B** BD 1765
- C** BD 1920
- D** BD 1926

- 23** A restaurant offers a variety of grilled dishes. The table below shows the available types and their prices according to their size:

Type	The dish (BD)			
	Small	Medium	Large	Family
<b>Meat Kebab</b>	1.200	1.600	2.000	3.100
<b>Meat Tikka</b>	1.000	1.400	1.800	2.700
<b>Chicken Kebab</b>	1.100	1.500	1.800	2.500
<b>Chicken Tikka</b>	1.000	1.400	1.700	2.200
<b>Meat Pieces</b>	1.800	2.500	3.200	4.300
<b>Chicken Pieces</b>	1.600	2.300	2.900	4.000
<b>Mixed Meat</b>	1.500	2.100	2.600	3.900
<b>Mixed Chicken</b>	1.400	1.900	2.400	3.500

Khalid bought a family plate of meat kebab, two large mixed chicken plates, and a small plate of meat pieces, and paid BD 20 at the cashier.

How much will the restaurant cashier return to Khalid?

- A** BD 8.100
- B** BD 9.700
- C** BD 10.300
- D** BD 12.700



- 24** The method of calculating a water bill by one of authorities of electricity and water in one month is as follows:

<b>Tariff (Dirhams per gallon)</b>	<b>Monthly Consumption (gallons)</b>
0.035	0 - 6000
0.040	6001 - 12000
0.046	12001 and above

Rashed consumed 17,560 gallons of water last August.

How many dirhams did Rashid pay to the electricity and water authority for the water bill consumed last August?

- A** Dirhams 672.40
- B** Dirhams 705.76
- C** Dirhams 708.25
- D** Dirhams 807.76

- 25** Najwa wants to buy tools for her home project from a nearby stationery store. She has set an estimated budget for her purchases, which should not be less than BD 106 and not more than BD 120.

The prices of the tools Najwa wants to buy vary from time to time. The table below shows the type of tool she wants to buy and the price range for each tool.

Tool	First	Second	Third	Fourth
Price range (BD)	3-4	2-3	5-7	10-13

Najwa needs at least two tools of each type and wants to buy as many as possible of the fourth tool.

What is the maximum number of the fourth tool Najwa can buy?

- A** 6
- B** 8
- C** 10
- D** 16

- 26** Ebrahim participates in a cultural competition held periodically, consisting of 7 rounds. The winner of each round receives BD 5, while in case of a draw, each participant receives BD 2. No amount is paid in case of a loss.

Which of the following amounts **cannot** represent the total amount that Ebrahim received at the end of the competition?

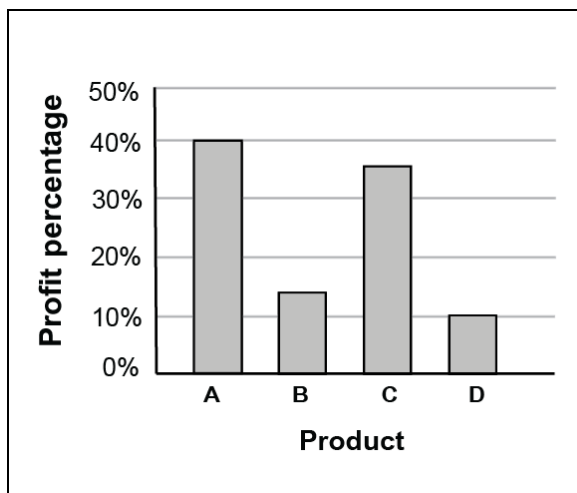
- A** 27
- B** 28
- C** 29
- D** 30

- 27** The table below represents the profit percentages of 4 different products in a store over 4 consecutive years:

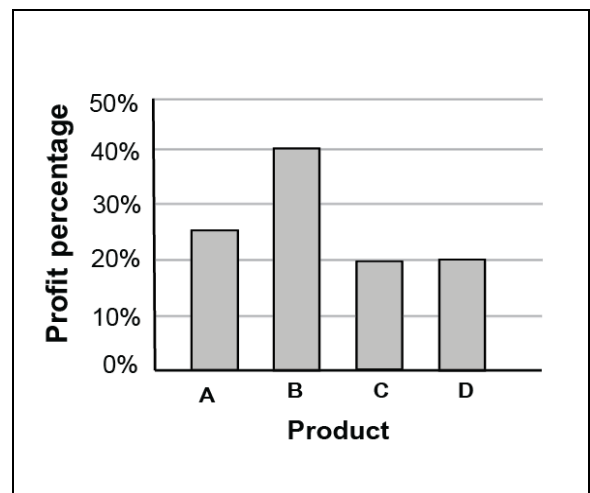
Product	2020	2021	2022	2023
<b>A</b>	40%	25%	15%	20%
<b>B</b>	15%	40%	40%	10%
<b>C</b>	35%	20%	15%	30%
<b>D</b>	20%	30%	30%	10%

Which of the following graphs represents the profit percentages of the store for the 4 goods for the year 2022?

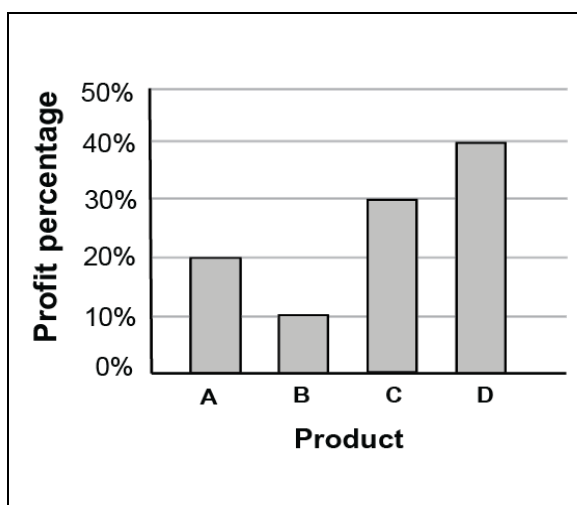
**A**



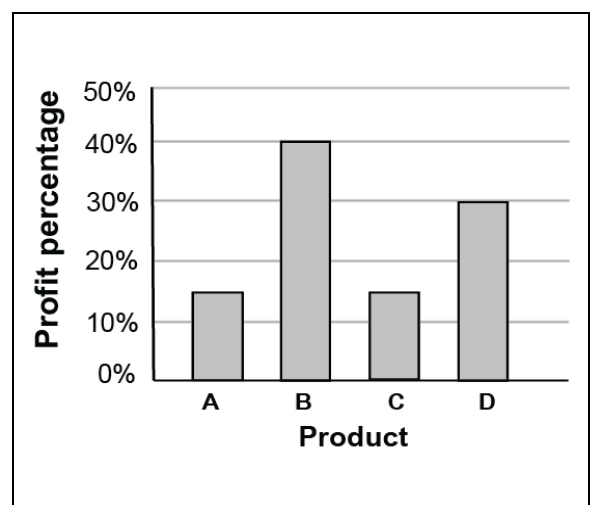
**B**



**C**



**D**

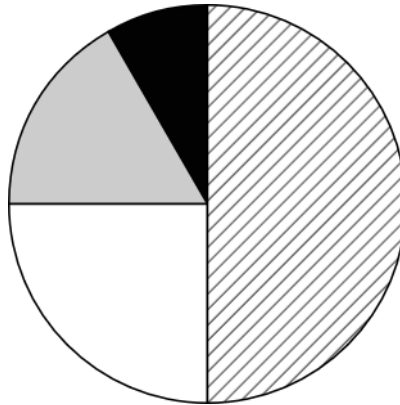


- 28** An institute has 10 classrooms. In an examination session, the person in charge of the institute divided the students who registered for the math examination equally into 10 classrooms. After knowing the number of registered students, the director of the institute asked the person in charge to re-divide the students into 8 classrooms. The person in charge redistributed the students to 8 classrooms by cancelling two classrooms and adding 5 students to each of the remaining eight classrooms.

How many students registered for the math examination in that session?

- A** 160
- B** 200
- C** 250
- D** 400

- 29** In one of the traditional contests, the committee allocated an amount for the winners of the first four places, as shown in the figure below.



If the amount allocated for the fourth place winner is BD 300, what is the amount allocated for the first place winner?

- A** BD 600
- B** BD 900
- C** BD 1800
- D** BD 3600

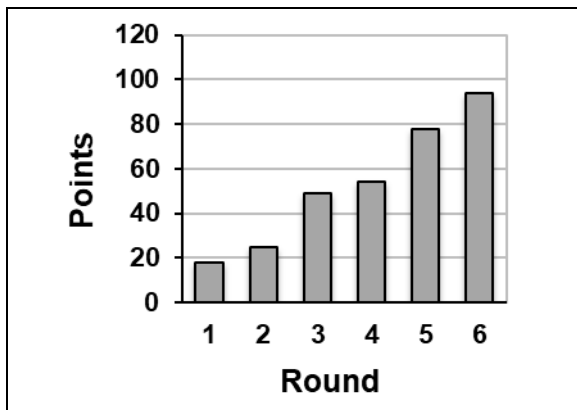
- 30** Mohammed and his friend Faisal are playing a new game based on the principle of cumulative point collection. The points are accumulated by adding the numbers shown on the faces of two dice that each player rolls in each round alternately, adding the sum to the previous rounds' points for each player. A player earns double the points of the sum of the dice numbers if both faces show even numbers and earns triple the points if both faces show odd numbers.

The table below shows the numbers that appeared for Mohammed on the faces of the dice in 6 rounds:

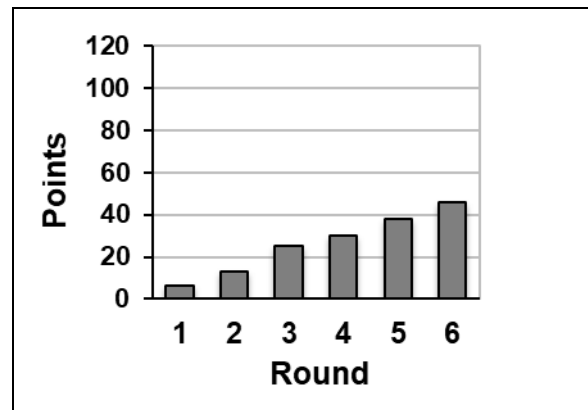
Dice	Round 1	Round 2	Round 3	Round 4	Round 5	Round 6
<b>Dice 1</b>	1	3	6	1	3	2
<b>Dice 2</b>	5	4	6	4	5	6

Which of the following graphs can represent Mahmoud's cumulative points at the end of each of the 6 rounds?

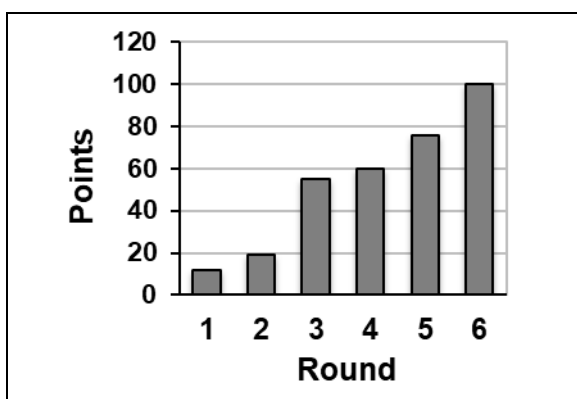
**A**



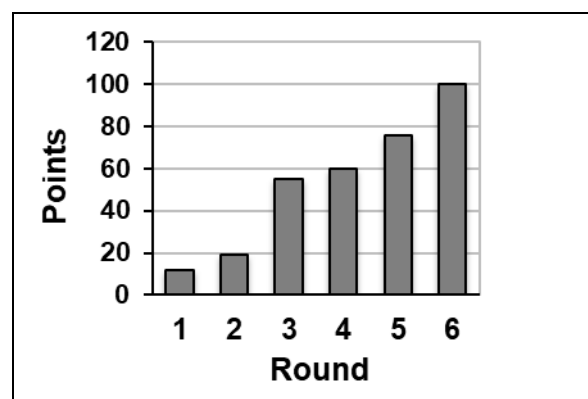
**B**



**C**



**D**



- 31** Eman receives her monthly salary of BD 1054 through Al Thiqah Bank. According to the bank's policy, if her account balance is no less than BD 300 at the end of the month, she is eligible for one point for every BD 10, which she can convert to cash at the beginning of each year. In June, her balance was BD 7231, and the table below shows the total amounts withdrawn from her balance during the second half of the previous year:

Month	July	August	September	October	November	December
<b>Total amounts withdrawn (BD)</b>	8000	971	1122	917	833	960

How many points will Eman earn in the second half of the previous year?

- A** 219 points
- B** 249 points
- C** 253 points
- D** 277 points



- 32** A shipping company applies the following rates for transporting shipments according to the following system for each shipment:

BD 25 for the first 600 kg or part thereof, and BD 5 for each additional 100 kg or part thereof.

Hamad wants to use the company's service to transport boxes with a total weight of 1380 kg. He can ship these boxes using one or more shipments.

What is the lowest cost to ship all the boxes according to the company's prices?

- A** BD 50
- B** BD 60
- C** BD 65
- D** BD 75

- 33** One of the university departments offers its students two tests during the semester and a final exam at the end of the semester. The mark for the first and second tests is 25 marks each, and the mark for the final exam is 50 marks. The passing grade for any course is at least 60 marks.

The department adopts a replacement system for grading, whereby the final exam mark is divided by 2. If the result is higher than one or both of the test marks, the department will replace the lower test mark with the result of dividing the final exam mark by 2.

Yasser scored 12 marks in the first test and 18 marks in the second test.

What is the minimum mark Yasser must achieve in the final exam to pass the course?

- A** 26
- B** 28
- C** 30
- D** 42

- 34** Last year, the number of students in a private school did not exceed 1000, with a ratio of male to female students 16 to 15.

After expanding and developing the school's buildings, a number of students (boys and girls) enrolled this year, reversing the ratio of male to female students.

The number of students exceeded 1220 but did not reach 1250.

How many female students are in the private school this year?

- A** 600
- B** 624
- C** 640
- D** 656

- 35** Mazen owns a travel tourism company and rents a group of hotels he regularly deals with during his tourist trips. The table below shows the hotels he rents, with the number of floors in each hotel, the number of rooms on each floor, the number of rooms on the top floor, and the price of each room in US dollars.

Hotel	Number of floors	Number of rooms on each floor except the top floor	Number of rooms on the top floor	Price per night for the room (\$)
<b>A</b>	10	8	5	40
<b>B</b>	12	8	4	50
<b>C</b>	9	7	3	45
<b>D</b>	12	6	4	55
<b>E</b>	10	9	5	60
<b>F</b>	13	8	3	40
<b>G</b>	11	10	6	50

In the past month, Mazen rented all the hotels that only have an even number of rooms for a week.

How much did Mazen pay for renting these hotels during the past month?

- A** \$ 18910
- B** \$ 125650
- C** \$ 132370
- D** \$ 189140

- 36** Shaker wants to transport 160 boxes from the iron factory to his store using a single truck with internal dimensions of 5.2 m (length), 2.7 m (width), and 3.5 m (height), and a maximum load capacity of 2000 kg.

Each box is a cube with dimensions of 1.1 m and weighs 130 kg, and no more than two boxes can be stacked on top of each other.

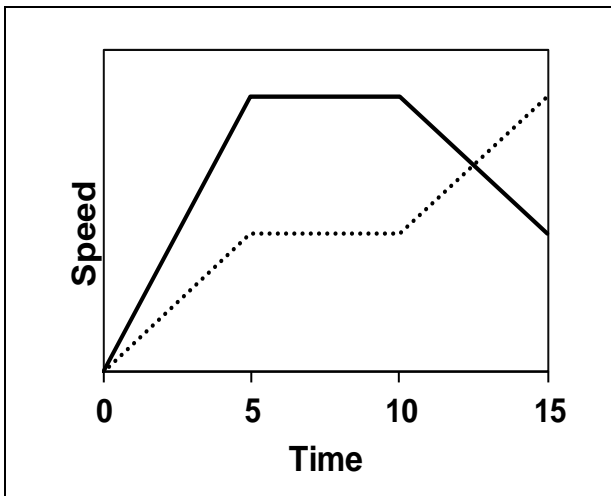
The truck needs to travel a distance of 20 km between the factory and the store for each round-trip.

What is the minimum distance the truck will travel, starting from the factory, to ensure all the boxes are transported to the store?

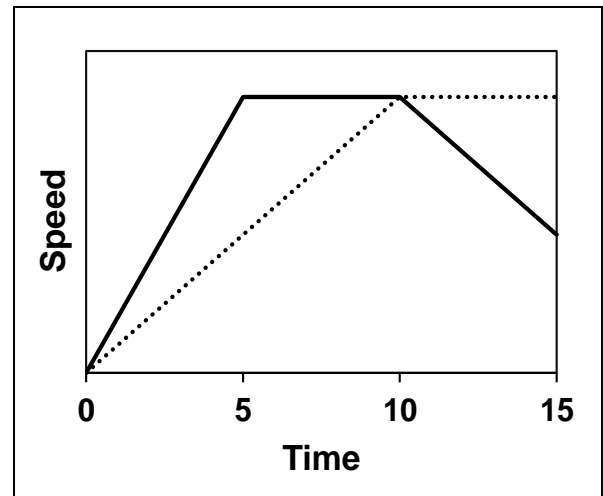
- A** 300 Km
- B** 380 Km
- C** 420 Km
- D** 440 Km

- 37** In a car race, two cars started together. The speed of the first car in the first 5 seconds was half the speed of the second car. After 5 seconds, both cars moved at a constant speed. Then, the speed of the first car increased, and the speed of the second car decreased in the next 5 seconds.

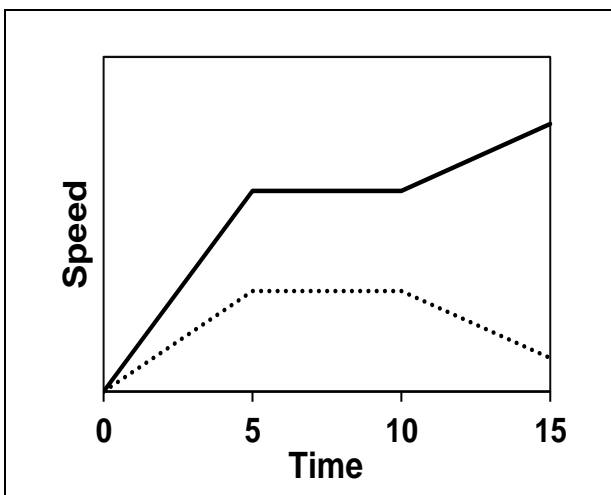
Which of the following graphs can represent the speed of the two cars over 15 seconds?

**A**

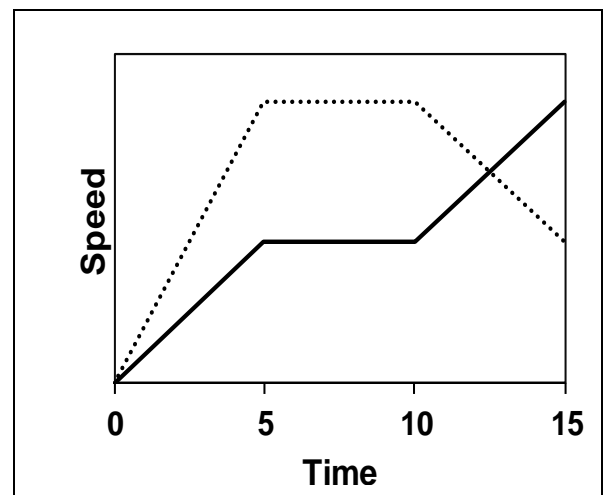
First car ..... Second car \_\_\_\_\_

**B**

First car ..... Second car \_\_\_\_\_

**C**

First car ..... Second car \_\_\_\_\_

**D**

First car ..... Second car \_\_\_\_\_

- 38** 'Al-Arkhas' store provides special offers when purchasing certain products in bundles. The table below shows the items included in the offers, the number of pieces in each offer, and the bundle price for each item.

Item	Number of Pieces	Bundle Price (BD)
First	2	50
Second	3	45
Third	4	40

Ammar bought from only two types of bundles from 'Al-Arkhas' store and paid BD 280.

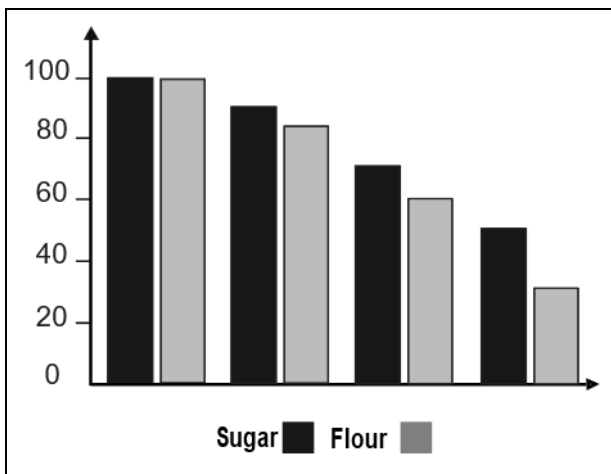
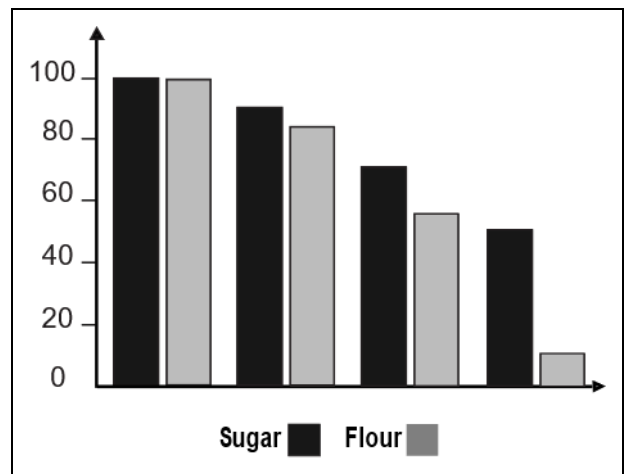
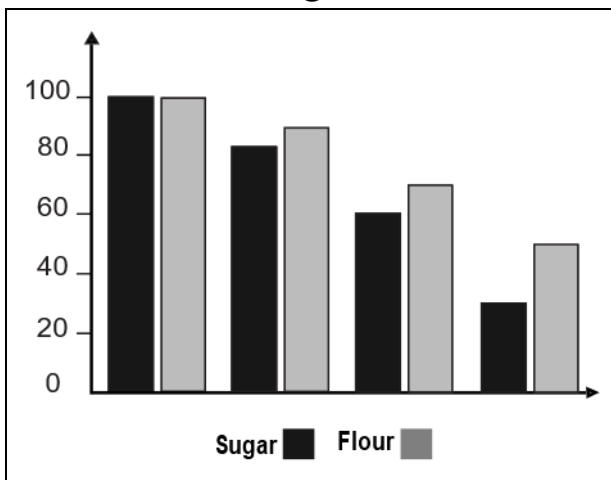
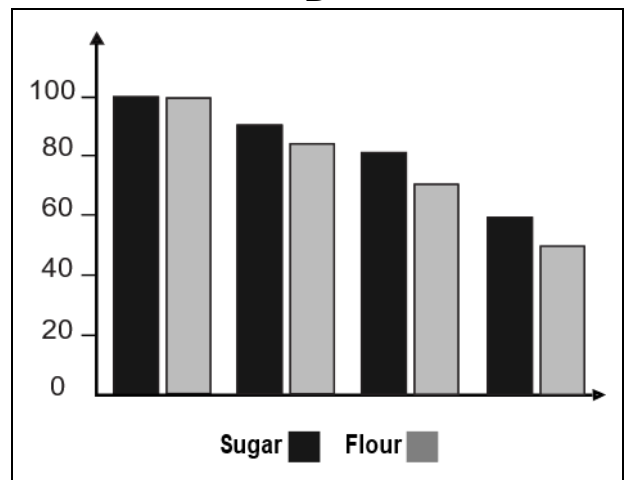
How many pieces did Ammar buy from 'Al-Arkhas' store?

- A** 6
- B** 14
- C** 16
- D** 28

**39** The manager of a bakery informed his head chef to reduce reliance on white sugar and white flour in the bakery's products. After three months, the bakery manager asked the head chef for a report showing the change in white sugar and white flour consumption levels, and the chef responded:

- By the end of the first month: white sugar consumption was reduced by 10%, and white flour by 15%, compared to the previous month.
- By the end of the second month: white sugar consumption was reduced by 20%, and white flour by 30%, compared to the previous month.
- By the end of the third month: white sugar consumption was reduced by 35%, and white flour by 45%, compared to the previous month.

Which of the following graphs can represent the changes in the bakery's consumption levels?

**A****B****C****D**



- 40** Haitham desires to start a project to increase his family's income, so he decided to import products from three possible types. The table below shows the price of each product in its manufacturing country and the shipping cost per piece to his doorstep.

Product	Product Price	Shipping Cost per Piece
First	115	11
Second	103	9
Third	81	10

Additionally, packaging costs for the products will be added, which Haitham estimated at BD 3 per piece for the first product, BD 4 per piece for the second product, and BD 5 per piece for the third product.

Haitham has allocated a budget of BD 360 to start this project and desires to achieve the highest profit by adding 30% of the total cost as profit per piece.

What is the maximum profit Haitham can achieve by spending BD 360?

- A** BD 102.300
- B** BD 104.400
- C** BD 106.200
- D** BD 108.300

