

AGA KHAN UNIVERSITY EXAMINATION BOARD

SECONDARY SCHOOL CERTIFICATE

CLASS IX EXAMINATION

APRIL/ MAY 2019

General Mathematics Paper I

Time: 45 minutes Marks: 30

INSTRUCTIONS

1. Read each question carefully.
2. Answer the questions on the separate answer sheet provided. DO NOT write your answers on the question paper.
3. There are 100 answer numbers on the answer sheet. Use answer numbers 1 to 30 only.
4. In each question, there are four choices A, B, C, D. Choose ONE. On the answer grid, black out the circle for your choice with a pencil as shown below.

Correct Way	Incorrect Ways
1 (A) (B) ● (D)	1 (A) (B) (C) (D)
	2 (A) (B) (C) (D)
	3 (A) (B) (C) (D)
	4 (A) (B) (C) (D)

Candidate's Signature

5. If you want to change your answer, ERASE the first answer completely with a rubber, before blacking out a new circle.
6. DO NOT write anything in the answer grid. The computer only records what is in the circles.
7. You may use a simple calculator if you wish.

1. In decimal numbers, 5.7% expressed as
 - A. 0.0057
 - B. 0.057
 - C. 5.7
 - D. 570

2. Flowers are distributed between two friends Asma and Khalida in the ratio 5 : 7. If Asma gets 35 flowers, then the number of flowers Khalida will get
 - A. 25
 - B. 35
 - C. 49
 - D. 63

3. The distance between two towns X and Y is 75 km. A family has covered a distance of 20 km from town X . The percentage of remaining distance to town Y is
 - A. 26.67
 - B. 55.00
 - C. 73.33
 - D. 136.36

4. Zahida paid *zakat* of Rs 13,500 on annual savings. Her annual saving is Rs
(**Note:** Rate of *zakat* is 2.5%.)
 - A. 54,000
 - B. 54,500
 - C. 540,000
 - D. 545,000

5. Mr Habib owns a property of worth Rs 8,250,000. As his legal heirs, he left two sons and two daughters; the share of son is two times that of daughter. The share of each daughter is Rs
 - A. 1,175,000
 - B. 1,375,000
 - C. 2,062,500
 - D. 2,750,000

6. Shazim purchased a house for Rs 2,500,000. After two years, he sold it at a profit of 30%. The selling price of the house is Rs
 - A. 3,250,000
 - B. 8,333,333.3
 - C. 10,833,333.3
 - D. 750,000

7. Kashif bought a used mobile phone for Rs 5,000 and spent Rs 225 in repairs. After using it for 10 months, he sold it for Rs 2,000. He suffered a loss of Rs
- A. 2,775
 - B. 3,000
 - C. 3,225
 - D. 5,225
8. Ahmed and Bilal are two partners in a business. As per agreement, the profit ratio should be in accordance with the amount invested by each partner. Ahmed invested Rs 120,000 and Bilal invested Rs 45,000. If they earned a profit of Rs 22,000, then the share of Bilal is Rs
- A. 6,000
 - B. 8,000
 - C. 16,000
 - D. 18,000
9. Sumaira deposited Rs 10,000 in her account. If the bank pays simple interest at the rate of 4% per year, the interest she gets after 3 years is Rs
- A. 1,200
 - B. 2,400
 - C. 12,000
 - D. 24,000
10. If 1 British Pound (£) equals to 176.15 Rupees, then Rs 15,000 is equal to
- A. £85.15
 - B. £88.15
 - C. £91.15
 - D. £94.15
11. Ms Nusrat earned a simple interest of Rs 1,000 in 4 years. If the interest rate is 5% per annum, then the amount she invested is Rs
- A. 4,500
 - B. 5,000
 - C. 8,000
 - D. 20,000
12. Rawaha bought a motor cycle on lease that costs him Rs 110,000. He paid Rs 10,000 as down payment. If monthly installment is Rs 5,000, then the number of installments will be
- A. 18
 - B. 20
 - C. 22
 - D. 24

13. The price of a mobile phone without sales tax is Rs 15,000. If sales tax is charged at a rate of 16%, then the price of mobile with sales tax is Rs
- A. 2,400
B. 12,600
C. 17,400
D. 18,600
14. The given table shows the annual income and rate of income tax.

S. No.	Annual Income (Rs)	Rate of Income Tax
1	Up to Rs 1,200,000	0%
2	Rs 1,200,001 to Rs 2,400,000	5%
3	Rs 2,400,001 to Rs 4,800,000	10%
4	Rs 4,800,001 and above	15%

Sarah works in an organisation and her monthly income is Rs 1,35,000. The tax on her annual income is Rs

- A. 13,500
B. 81,000
C. 162,000
D. 6,750
15. The given table shows the tariff for residential consumer of an electric supply company. The tariff is for single phase connection.

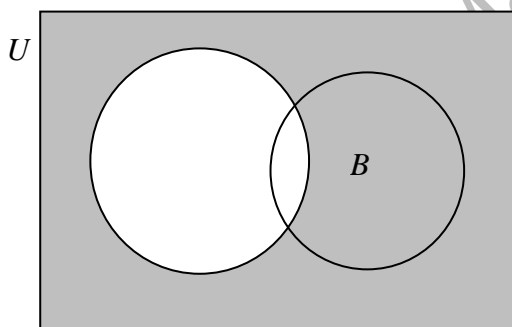
S. No.	Tariff Category	Fixed Charges (Rs)	Variable Charges/ Unit (Rs)
1	1 unit to 100 units	75	5.79
2	101 units to 200 units	75	8.11
3	201 units to 300 units	75	10.20
4	301 units to 700 units	75	16.00
5	Above 700 units	75	18.00

Noman's family consumed 375 units of electricity in the month of March. Their bill for the month would be Rs

- A. 4,335
B. 4,410
C. 6,000
D. 6,075

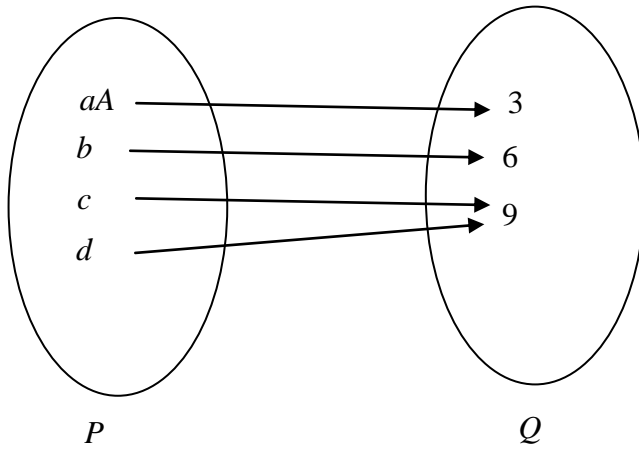
16. A receptionist works 48 hours per week in a certain month of 4 weeks. If her regular pay is Rs 190 per hour, her salary for the month is Rs
- A. 6,560
 - B. 9,120
 - C. 36,480
 - D. 39,540
17. $\sqrt[3]{\frac{81}{3}}$ is equal to
- A. $3^{\frac{1}{3}}$
 - B. $9^{\frac{1}{3}}$
 - C. 3
 - D. 9
18. For $8.9 \times 10^b = 0.00089$, the value of b is
- A. 3
 - B. -3
 - C. 4
 - D. -4
19. The value of $\log_a a^2 - \log_a a$ is equal to
- A. 1
 - B. 2
 - C. $2a$
 - D. a
20. If the n^{th} term of a sequence is $a_n = 5 - 3n$, then the 10^{th} term of this sequence is
- A. 20
 - B. 25
 - C. -25
 - D. -35
21. For an arithmetic sequence, the 7^{th} term is -9 and common difference is $\frac{3}{2}$. Its first term will be
- A. 0
 - B. -1
 - C. 18
 - D. -18

22. The geometric mean between $3\sqrt{3}$ and $\sqrt{3}$ is
- A. 3
 - B. ± 3
 - C. 9
 - D. ± 9
23. The domain of the binary relation $R = \{(d, 11), (e, 22), (f, 33)\}$ is
- A. $\{11, 22, 33\}$
 - B. $\{d, 11\}$
 - C. $\{d, e, f\}$
 - D. $\{d, e, f, 11, 22, 33\}$
24. For the given sets $A = \{1, 2, 3\}$ and $B = \{2, 5\}$, $(A \cup B) - B$ is equal to
- A. $\{\}$
 - B. $\{1, 3\}$
 - C. $\{2\}$
 - D. $\{5\}$
25. The shaded portion in the given Venn diagram represents



- A. A^c
- B. $A^c \cup B$
- C. $A \cup B^c$
- D. B^c

26. The domain of the binary relation, between set P and set Q , in the given diagram is



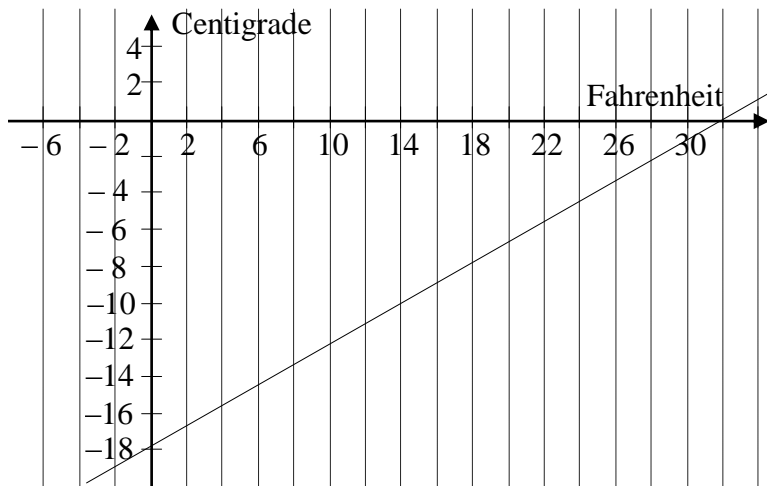
- A. $\{a, b, c\}$
- B. $\{a, b, c, d\}$
- C. $\{a, b, d\}$
- D. $\{c, d\}$

27. The point $(3, 0)$ lies on the line(s)

- I. $x = 3$
 - II. $y = 3$
 - III. $x - y = 3$
- A. I and III.
 - B. II and III.
 - C. II only.
 - D. I only.

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28. The given graph shows conversion of temperature from Fahrenheit to Centigrade scale.



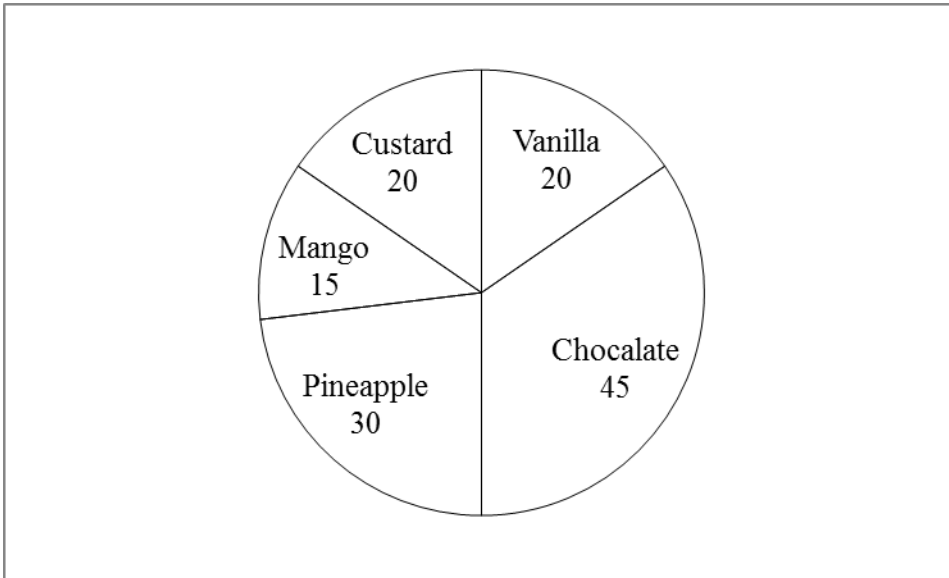
From the graph, 14°F in centigrade is

- A. 4°C
- B. 8°C
- C. -10°C
- D. -14°C

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Use the given pie-chart to answer Q. 29 and Q.30.

The number of ice cream cups of different flavours sold at an ice cream parlour is shown in the given pie-chart.



29. The percentage sale of chocolate flavour is

- A. 34.62
- B. 38.25
- C. 52.94
- D. 58.50

30. The angle of the sector representing custard flavour is

- A. 7.22°
- B. 15.38°
- C. 20°
- D. 55.38°

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