GRADE 9 · GEC 2026 PREDICTION

Mathematics Paper 1

Numbers, Operations and Relationships · Patterns, Functions and Algebra

TOTAL **75 marks** TIME **2 hours 30 minutes (+ 15 minutes reading time)**

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An unofficial prediction paper in the format of the GEC Mathematics Paper 1. It is not set by the Department of Basic Education.

HOW TO USE THIS PREDICTION PAPER

- Write it like the real exam: 15 minutes to read the paper first, then 2 hours 30 minutes to answer it, with a calculator and no notes.
- Section A: do your calculation first, then mark your choice with a cross (X) on the ANSWER SHEET on the last page.
- Section B: show all your working. Answers only do not get full marks.
- Mark your own work with the memorandum: every question has a worked answer. Redo every question you got wrong, then watch the video.

INSTRUCTIONS

1. Read all the instructions and questions carefully.
2. Answer ALL the questions.
3. This paper consists of SECTION A (60 multiple-choice questions, 60 marks) and SECTION B (4 questions, 15 marks).
4. Non-programmable calculators may be used, unless otherwise stated.
5. Diagrams are not necessarily drawn to scale, and all lines are regarded as straight lines unless stated otherwise.

SECTION A

60 MARKS

Choose the correct answer. Do your calculation before you choose an option.

1. Which of the following numbers is rational but NOT an integer? (1)

A −7 **B** $\sqrt{9}$ **C** $\sqrt{5}$ **D** 2,5

2. What is the LCM of 24 and 90? (1)

A 6 **B** 360 **C** 180 **D** 2 160

3. What is the HCF of 84, 126 and 210? (1)

A 14 **B** 42 **C** 21 **D** 1 260

4. Six workers take 10 days to paint a school. How many days would 4 workers take, working at the same rate? (1)

A 6,67 days **B** 12 days **C** 15 days **D** 60 days

5. A bus leaves Durban at 07:15 and travels 405 km to Bloemfontein at an average speed of 90 km/h. At what time does the bus arrive? (1)

A 11:20 **B** 12:05 **C** 12:45 **D** 11:45

6. Mpho has R10 000 to invest for 3 years. Option A: 9% per annum simple interest. Option B: 8% per annum compound interest. Which option earns more interest, and by how much? (1)

A Option B, by R102,88 **B** Option A, by R297,12
C Option B, by R2 597,12 **D** Option A, by R102,88

7. Which statement illustrates the distributive property? (1)

A −5 × 3 = 3 × (−5) **B** −4(5 + 2) = (−4)(5) + (−4)(2)
C (2 × 3) × 4 = 2 × (3 × 4) **D** 7 + (−7) = 0

8. What is the multiplicative inverse of $-\frac{2}{3}$? (1)

A $-\frac{3}{2}$ **B** $\frac{3}{2}$ **C** $\frac{2}{3}$ **D** 0

9. Calculate: $-18 \div (-3) + 4 \times (-5) - (-7)$ (1)

A −43 **B** −21 **C** −7 **D** −19

10. Evaluate: $\frac{2(-3)^3 + 6(-2)}{-5 - 1}$ (1)

A 11 **B** −11 **C** −7 **D** 7

11. Evaluate: $\sqrt[3]{-125} + \sqrt{144} - (-2)^3$ (1)

A −1 **B** 13 **C** 25 **D** 15

12. Simplify: $\frac{\sqrt{81} - \sqrt[3]{8}}{5^2 - 4^2}$ (1)

A $\frac{1}{9}$ **B** $\frac{11}{9}$ **C** $\frac{7}{9}$ **D** 7

13. Simplify: $(3a^2b^3)^2 \times 2a^{-1}$ (1)

A $6a^3b^6$ **B** $18a^5b^6$ **C** $18a^3b^5$ **D** $18a^3b^6$

14. Simplify: $(2x^{-3})^{-2} \div x^4$ (1)

A $4x^2$ **B** $\frac{x^2}{4}$ **C** $\frac{x^{10}}{4}$ **D** $-4x^2$

15. Evaluate: $5^0 + 3^{-2} \times 9 - (-1)^5$ (1)

A −52 **B** 1 **C** 3 **D** 2

16. The average distance from the Earth to the Sun is 149 600 000 km. Which of the following is this distance in scientific notation? (1)

A $1{,}496 \times 10^{7}$ km **B** $1{,}496 \times 10^{9}$ km
C $1{,}496 \times 10^{8}$ km **D** $1{,}496 \times 10^{-8}$ km

17. Calculate $(4 \times 10^{5}) \times (3 \times 10^{-2})$ and give the answer in scientific notation. (1)

A $1{,}2 \times 10^{4}$ **B** $1{,}2 \times 10^{3}$ **C** 7×10^{3} **D** $1{,}2 \times 10^{-10}$

18. Given: $\frac{3}{4}$; $\frac{6}{9}$; $\frac{9}{14}$; $\frac{12}{19}$; … What is the next term? (1)

A $\frac{15}{24}$ **B** $\frac{15}{23}$ **C** $\frac{16}{24}$ **D** $\frac{12}{24}$

19. The figures below are made of square tiles. How many tiles will Figure 20 have? (1)

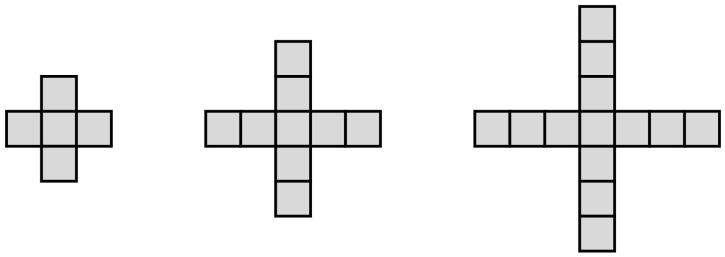


Figure 1 **Figure 2** **Figure 3**

A 80 **B** 84 **C** 100 **D** 81

20. Use the figures in Question 19. Which figure will have 125 tiles? (1)

A Figure 30 **B** Figure 32 **C** Figure 31 **D** Figure 124

21. Given: 2 ; 6 ; 18 ; 54 ; … Which statement describes the rule of the pattern? (1)

A Add 4 to the previous term.
B The difference between the terms increases by 4 each time.
C Multiply the previous term by 3.
D Each term is double its position number.

22. The table shows the first four terms of a pattern. Which rule gives the general term? (1)

Position (n)	1	2	3	4
Term	1	7	17	31

A $T_n = 6n - 5$ **B** $T_n = 2n^2 - 1$
C $T_n = n^3 - n + 1$ **D** $T_n = 3n^2 - 2$

23. Which of the following are like terms? (1)

A $4a^2b$ and $-3ab^2$ **B** $-3ab^2$ and $-7ab$
C $4a^2b$ and a^2b **D** a^2b and $-7ab$

24. What is the coefficient of x^2 in $5x^3 - x^2 + 3x - 2$? (1)

A 1 **B** 3 **C** 5 **D** −1

25. Which expression is a trinomial? (1)

A $x^2 - 4x + 7$ **B** $3x^2y$
C $2x - 5$ **D** $2x^3 - x^2 + x - 1$

26. Simplify: $-2x(3x - 4) + 5x^2$ (1)

A $-x^2 - 8x$ **B** $11x^2 - 8x$ **C** $-x^2 + 8$ **D** $-x^2 + 8x$

27. Expand: $(2x - 5)^2$ (1)

A $4x^2 - 25$ **B** $4x^2 - 20x + 25$
C $4x^2 + 25$ **D** $4x^2 - 10x + 25$

28. Simplify: $(3x + 2)(x - 4)$ (1)

A $3x^2 - 14x - 8$ **B** $3x^2 + 10x - 8$ **C** $3x^2 - 8$ **D** $3x^2 - 10x - 8$

29. If $a = -2$ and $b = 3$, determine the value of $a^3 - 2ab + b^2$. (1)

A -11 **B** 13 **C** 10 **D** 29

30. Simplify: $\frac{6x^2 + 9x}{3x}$ (1)

A $2x^2 + 3x$ **B** $2x + 3$ **C** $2x + 9$ **D** $5x^2$

31. Factorise: $49x^2 - 16y^2$ (1)

A $(7x - 4y)^2$ **B** $(49x - 16y)(x + y)$
C $(7x + 4y)^2$ **D** $(7x - 4y)(7x + 4y)$

32. Factorise: $x^2 - 3x - 28$ (1)

A $(x - 7)(x + 4)$ **B** $(x + 7)(x - 4)$
C $(x - 14)(x + 2)$ **D** $(x - 7)(x - 4)$

33. Factorise completely: $3x^2 + 15x + 18$ (1)

A $3(x + 1)(x + 6)$ **B** $3(x - 2)(x - 3)$
C $3(x + 9)(x + 2)$ **D** $3(x + 2)(x + 3)$

34. Factorise: $2x(x - 5) - 3(5 - x)$ (1)

A $(x - 5)(2x + 3)$ **B** $(x - 5)(2x - 3)$
C $(5 - x)(2x + 3)$ **D** $(x + 5)(2x - 3)$

35. Simplify: $\frac{x^2 - 9}{x^2 + x - 6}$ (1)

A $\frac{x + 3}{x - 2}$ **B** $\frac{x - 3}{x - 2}$ **C** $\frac{x - 3}{x + 2}$ **D** $\frac{3}{x + 2}$

36. Solve for x: $\frac{x + 3}{4} - \frac{x - 1}{3} = 1$ (1)

A $x = -7$ **B** $x = -1$ **C** $x = 1$ **D** $x = 13$

37. Solve for x: $5 - 2x = 3x + 20$ (1)

A $x = -5$ **B** $x = 3$ **C** $x = 5$ **D** $x = -3$

38. Thabo is x years old. His father is three times as old as Thabo. In 5 years' time the sum of their ages will be 62. Which equation can be used to find x? (1)

A $x + 3x + 5 = 62$ **B** $(x + 5) + (3x + 5) = 62$
C $(x + 5) + 3x = 62$ **D** $3(x + 5) = 62$

39. Solve for x: $3^{x+1} = 81$ (1)

A $x = 3$ **B** $x = 2$ **C** $x = 4$ **D** $x = 26$

40. Solve for x: $2^{2x-1} = \frac{1}{8}$ (1)

A $x = -2$ **B** $x = 1$ **C** $x = 2$ **D** $x = -1$

41. The formula $F = \frac{9}{5}C + 32$ changes a temperature in °C into °F. Determine C when $F = 95$. (1)

A 35 **B** 63 **C** 113,4 **D** 203

42. Solve for x: $(3x + 6)(x - 4) = 0$ (1)

A $x = 2$ or $x = -4$ **B** $x = -2$ or $x = 4$
C $x = -6$ or $x = 4$ **D** $x = -2$ or $x = -4$

43. Solve for x: $x^2 - 5x = 14$ (1)

A $x = -7$ or $x = 2$ **B** $x = 14$ or $x = 5$
C $x = 7$ or $x = -2$ **D** $x = 0$ or $x = 5$

44. Solve for x: $4x^2 = 12x$ (1)

A $x = 3$ **B** $x = 0$ or $x = 3$
C $x = 0$ or $x = -3$ **D** $x = 0$ or $x = 12$

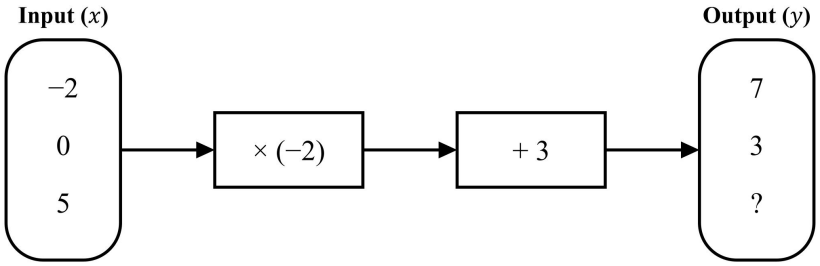
45. The product of two consecutive positive integers is 56. What is the larger integer? (1)

A 8 **B** 7 **C** 14 **D** 28

46. Which ordered pair satisfies the equation $y = -3x + 2$? (1)

A (1 ; 1) **B** (2 ; 4) **C** (0 ; −2) **D** (−1 ; 5)

47. Consider the flow diagram. What is the missing output value? (1)



A −7 **B** −13 **C** 7 **D** 13

48. Which equation represents the relationship in the table? (1)

x	0	1	2	3
y	−4	−1	2	5

A $y = x - 4$ **B** $y = -4x + 3$ **C** $y = 3x + 4$ **D** $y = 3x - 4$

49. The table is represented by the equation $y = -2x + 5$. Determine the value of m. (1)

x	−1	0	2	m
y	7	5	1	−9

A −7 **B** 2 **C** 7 **D** 23

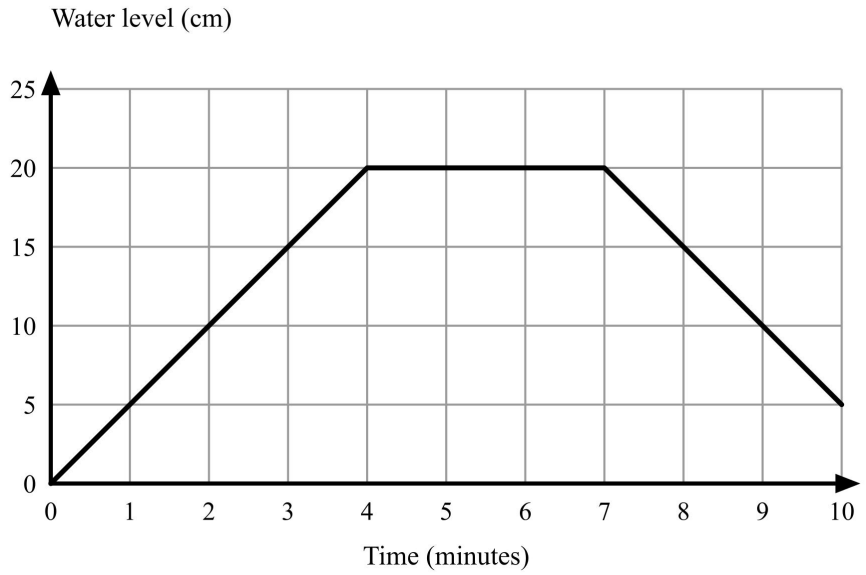
50. Which statement describes the relationship $y = 5 - 2x$? (1)

A Multiply the input value by −2 and add 5 to get the output value.
B Multiply the input value by 2 and subtract 5 to get the output value.
C Subtract 2 from the input value and multiply by 5 to get the output value.
D Multiply the input value by 5 and subtract 2 to get the output value.

51. Hiring a jumping castle costs R150 plus R80 for every hour. Which equation gives the cost C (in rand) of hiring the jumping castle for h hours? (1)

A $C = 80h + 150$ **B** $C = 150h + 80$
C $C = 230h$ **D** $C = 80(h + 150)$

52. The graph shows the water level in a tank over 10 minutes. During which time interval does the water level stay the same? (1)

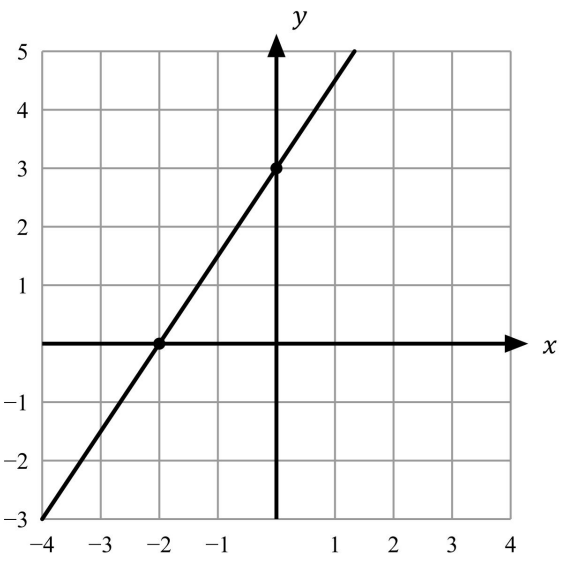


A 0 to 4 minutes
B 4 to 7 minutes
C 7 to 10 minutes
D 0 to 10 minutes

53. Which situation would be represented by a DISCRETE graph? (1)

A The temperature of a cup of tea as it cools
B The height of a plant as it grows
C The number of learners in each class of a school
D The distance a car has travelled during a trip

54. What is the gradient of the straight line in the graph? (1)



A $-\frac{3}{2}$ **B** $-\frac{2}{3}$ **C** $\frac{3}{2}$ **D** $\frac{2}{3}$

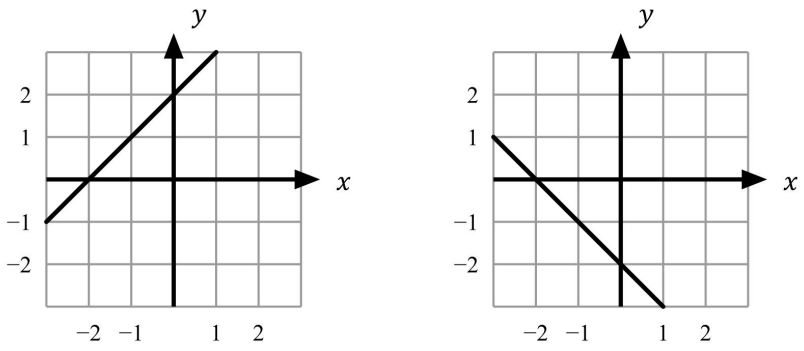
55. What are the coordinates of the x-intercept of the graph of $2x - 5y = 10$? (1)

A (5 ; 0) **B** (−2 ; 0) **C** (0 ; −2) **D** (0 ; 5)

56. A straight line has a gradient of −2 and a y-intercept of 4. What is its equation? (1)

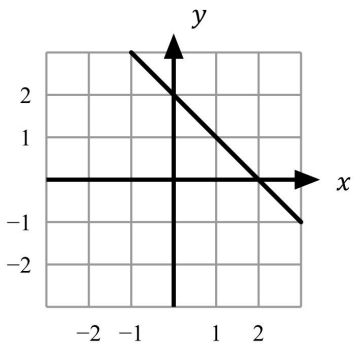
A $y = -2x + 4$ **B** $y = 4x - 2$ **C** $y = -2x - 4$ **D** $y = 2x + 4$

57. Which graph represents $y = -x + 2$? (1)

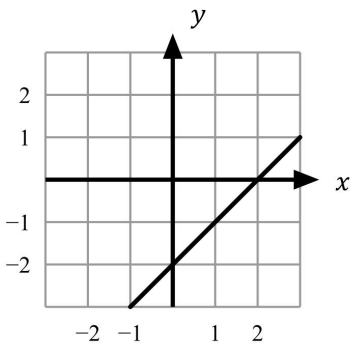


A

B



C



D

Choose the graph: A, B, C or D.

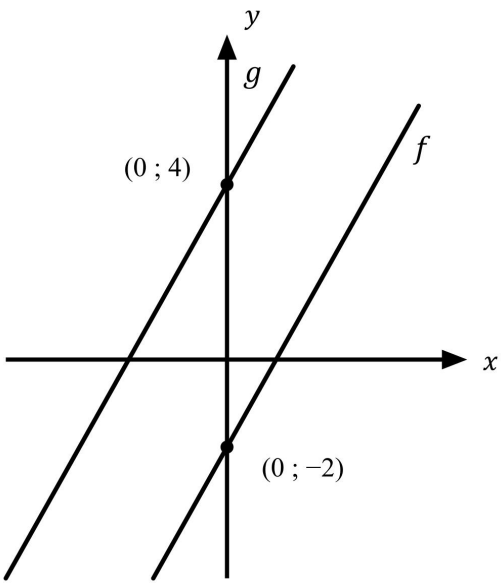
58. A straight line passes through the points $(-1\ ;\ 5)$ and $(3\ ;\ -3)$. What is the gradient of the line? (1)

A $-\frac{1}{2}$ **B** $\frac{1}{2}$ **C** -2 **D** 2

59. What is the equation of the straight line through $(3\ ;\ -4)$ that is parallel to the x-axis? (1)

A $x = 3$ **B** $y = -4$ **C** $x = -4$ **D** $y = 3$

60. The sketch shows the lines f and g. The equation of f is $y = 3x - 2$. Line g is parallel to f and passes through $(0\ ;\ 4)$. What is the equation of g? (1)



A $y = -3x + 4$ **B** $y = 3x + 4$ **C** $y = 4x - 2$ **D** $y = -\frac{1}{3}x + 4$

SECTION A TOTAL: [60]

SECTION B

15 MARKS

Show all your calculations.

61. Simplify: $\dfrac{(-2x^3y^{-1})^3}{4x^5y^{-6}}$ (3)

62. Simplify: $\dfrac{x^2-4}{x^2+5x+6} \div \dfrac{x-2}{x+3}$ (3)

63. The length of a rectangular vegetable garden is 4 m longer than its breadth. The area of the garden is 96 m². Determine the length and the breadth of the garden. (4)

64. Given: $3x - 2y = 6$

    64.1 Determine the coordinates of the x- and y-intercepts of the graph. (2)

    64.2 Hence draw the graph on the Cartesian plane on the ANSWER SHEET. (2)

    64.3 Determine the gradient of the line. (1)

SECTION B TOTAL: [15]

TOTAL: 75

ANSWER SHEET

NAME: _____ GRADE: _____

SECTION A — mark your answer with a cross (X).

No.	A	B	C	D
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SECTION B — QUESTION 64.2

