



Western Cape
Government

Education

FOR YOU

GRADE 9

**GEC RELATED QUESTIONS
ON
ALGEBRAIC EXPRESSIONS**



2026

GEC 2022

$$a = 2 \text{ and } b = 3$$

5. What is the value of $\frac{3(-2a \times b) + 6a^2b^2}{ab}$?

- A 18
- B 30
- C 42
- D 48

$$(x^4 + x^3 - x^2) \div 4$$

15. What is the coefficient of x^2 ?

- A 1
- B -1
- C $-\frac{1}{4}$
- D $\frac{1}{4}$

$$4ax^2 + 3axy - 14ax + 7xay + x^2$$

16. Which of the following are like terms in the expression?

- A $4ax^2 + x^2$
- B $3axy - 14ax$
- C $7xay - 14ax$
- D $7xay + 3axy$

$$(2x - 3y)(x + 5y)$$

17. What is the product?

- A $2x^2 + 7xy - 15y^2$
- B $2x^2 - 7xy - 15y^2$
- C $2x^2 + 17xy + 15y^2$
- D $2x^2 - 17xy + 15y^2$

$$\frac{16x^3 - 2x(-3x - x)}{-2x^2}$$

18. What is the expression in its simplest form?

- A $8x + 4$
- B $8x - 4$
- C $-8x + 4$
- D $-8x - 4$

$$1 - 9a^2$$

19. What are the factors of the expression?

- A $(1 - 3a)(1 - 3a)$
- B $(1 - 3a)(1 + 3a)$
- C $(1 - 9a)(1 - 9a)$
- D $(1 - 9a)(1 + 9a)$

$$3x^3 + 9x^2 - 30x$$

20. What are the factors of the expression?

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

The area of a rectangle is $x^2 - x - 2$

21. What is the length (L) and width (W) of the rectangle in terms of x ?

- A $L = (x + 2)$ and $W = (x + 1)$
- B $L = (x + 2)$ and $W = (x - 1)$
- C $L = (x - 1)$ and $W = (x - 2)$
- D $L = (x + 1)$ and $W = (x - 2)$

$$\frac{6x^2 + 18x - 60}{48x} \div \frac{x^2 - 4}{8x}$$

22. What is the simplest form of the expression?

- A $\frac{x + 2}{x + 5}$
- B $\frac{x - 2}{x - 5}$
- C $\frac{x + 5}{x + 2}$
- D $\frac{x - 5}{x - 2}$

$$15s^4 - 15z^4$$

23. What are the factors if the expression is factorized fully?

- A $15(s^4 - z^4)$
- B $15(s^2 - z^2)(s^2 + z^2)$
- C $15(s - z)(s + z)(s^2 + z^2)$
- D $15(s - z)(s + z)(s + z)(s + z)$

GEC 2023

23. $3x^3 + 3x(x^2) + 3x^2 + 3x$

Which of the following are like terms?

- A $3x^3$ and $3x(x^2)$
- B $3x^3$ and $3x^2$
- C $3x(x^2)$ and $3x^2$
- D $3x(x^2)$ and $3x$

24. $(-2x^2)^3$

What is the coefficient of the variable and the degree of the term?

- A -2 and 2
- B 8 and 5
- C 2 and 3
- D -8 and 6

25. Which of the following is a trinomial when simplified?

- A $2x^2 - x^2 + 0$
- B $3x^2 + 2 - x^2$
- C $x + 3x^2 + 2 - 4x$
- D $2x^0 + 3 + x + 2$

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

- A $-4x^3 - 2x^2 + x$
- B $4x^3 + 2x^2 - x$
- C $4x^2 + 2x - 1$
- D $-4x^2 - 2x + 1$

27. Simplify: $3x(x - 4) + \frac{4x + 2}{2}$

- A $3x^2 - 10x + 1$
- B $3x^2 + 2x - 11$
- C $6x^2 - 20x + 2$
- D $6x^2 - 22x + 1$

28. Simplify: $\sqrt[3]{0,125x^3}$

- A $\frac{x}{2}$
- B $\frac{x^3}{2}$
- C $0,125x$
- D $0,125x^3$

29. $(x + 3)(2x - \frac{1}{3})$

What is the product?

A $2x^2 - 1$

B $2x^2 + 1$

C $2x^2 + \frac{17x}{3} - 1$

D $2x^2 + \frac{19x}{3} - 1$

30. $-8x^2 + 10y - 2$

What is the numerical value of the expression if $x = -\frac{1}{2}$ and $y = 2$?

A 20

B 22

C 14

D 16

31. Factorise: $4x^2 - 9$

A $(2x - 3)(2x + 3)$

B $(2x - 9)(2x + 9)$

C $(4x - 3)(4x + 3)$

D $(4x - 9)(4x + 9)$

32. Factorise: $x^2 - 5x - 24$

A $(x + 8)(x + 3)$

B $(x - 8)(x + 3)$

C $(x - 8)(x - 3)$

D $(x + 8)(x - 3)$

33. Factorise: $6y^2 - 12y - 18$

- A $6(y - 3)(y + 1)$
- B $6(y + 3)(y + 1)$
- C $6(y - 3)(y - 1)$
- D $6(y + 3)(y - 1)$

34. Simplify: $\frac{2x^2 - 2x - 12}{2x - 6}$

- A $x - 2$
- B $x + 2$
- C $2x^2 - 2$
- D $2x^2 + 2$

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

- A $x + y + 1$
- B $x - y + 1$
- C $x - y - 1$
- D $x + y - 1$

41. Given: $y = m^2 - 3m$ and $m = 4$.
What is the value of y ?

- A 5
- B -4
- C 4
- D -8

62. $\frac{y^2(6y - 1)}{-y} - \frac{3y^2(5 - 10y^2)}{5y^2}$

Simplify completely.

GEC 2024 – Paper 1

16. Simplify: $-3(x^{-1}y^2)^{-3} \times (xy)^{-5}$

A $\frac{-1}{9x^8y^5}$

B $\frac{1}{9x^8y^5}$

C $\frac{-3}{x^2y^{11}}$

D $\frac{-3}{x^{-2}y^{-11}}$

17. Simplify: $\left(\frac{y^2 + \frac{1}{y^{-2}}}{y^2 \times y^2}\right)^{-2}$

A $4y^4$

B $\frac{y^4}{4}$

C $-4y^4$

D $-\frac{y^4}{4}$

18. Simplify: $\frac{\sqrt{4x^6y^{-2}} \times (x^2)^{-2}}{(2x)^0 \times y^{-3}}$

A $\frac{xy^2}{2}$

B $\frac{y^2}{2x}$

C $\frac{2}{x^{-1}y^2}$

D $\frac{2y^2}{x}$

23. Which of the following are like terms?

A $2pqr^2$ and $4p^2qr$

B $-7pq^2$ and $-7pr^2$

C $5pq^2r$ and $2pqr^2$

D $-3pq^2r$ and $5pq^2r$

24. $-2x^3 + 3x^2 - x + 8$

What is the exponent of the term with the smallest coefficient?

A 0

B 1

C 2

D 3

25. $-5xy \times x^5 - \frac{y^2}{3} + 5(x)$

How many terms are in the expression?

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

26. Simplify: $-3y(2y^2 - 4y) - 1$

- A $-6y^3 + 12y^2 - 1$
- B $6y^3 - 12y^2 - 1$
- C $-6y^3 + 12y^2 + 3y$
- D $6y^3 - 12y^2 - 3y$

27. Simplify: $\frac{15y^3 - 3y(-y + 2) + 6y^2}{3y}$

- A $5y^2 + y - 2$
- B $3y^3 + 5y^2 - 2$
- C $11y^2 + y - 2$
- D $5y^2 + 3y - 2$

28. Simplify: $\sqrt{y^8 + \frac{9}{16}y^8}$

A $\frac{5y^8}{4}$

B $\frac{7y^4}{4}$

C $\frac{5y^4}{4}$

D $\frac{7y^8}{4}$

29. $\left(4x - \frac{1}{2}\right)^2$

What is the product?

A $16x^2 - \frac{1}{4}$

B $16x^2 - 4x + \frac{1}{4}$

C $16x^2 + \frac{1}{4}$

D $16x^2 - 4x - \frac{1}{4}$

30. $\frac{9p^2 - 8q}{r}$

What is the numerical value of the expression if

$p = -1, q = 0,125$ and $r = \frac{1}{2}$?

- A 4
- B 7
- C 16
- D 20

31. Factorise: $25a^2 - 16b^2$

- A $(5a - 4b)(5a + 4b)$
- B $(5a + 16b)(5a - 16b)$
- C $(25a - 4b)(25a + 4b)$
- D $(25a + 16b)(25a - 16b)$

32. Factorise: $y^2 - 11y + 28$

- A $(y - 4)(y + 7)$
- B $(y + 7)(y + 4)$
- C $(y - 7)(y - 4)$
- D $(y + 4)(y - 7)$

33. Factorise: $9p^2 + 27p - 90$

- A $9(p + 5)(p + 2)$
- B $9(p - 2)(p + 5)$
- C $9(p - 5)(p + 2)$
- D $9(p - 2)(p - 5)$

34. Simplify: $\frac{2a^2 - 10a + 12}{a(a + 2) - 3(a + 2)}$

A $\frac{2(a + 3)}{a - 3}$

B $\frac{2(a - 3)}{a + 3}$

C $\frac{2(a - 2)}{a + 2}$

D $\frac{2(a + 2)}{a - 2}$

35. Simplify: $\frac{48r - 3r(p + q)^2}{12r + 3pr + 3qr}$

A $4 - p + q$

B $4 + p - q$

C $4 - p - q$

D $4 + p + q$

61. Simplify completely: $\frac{-5x(2x - 4x^2) + x^2(1 + 16x)}{-3x}$

GEC 2025

14. Simplify: $\frac{(ab)^0 \times (a^3b)^{-2}}{(ab)^2}$

- A $\frac{1}{a^8b^4}$
- B $\frac{1}{a^{10}b^6}$
- C $\frac{1}{a^7b^3}$
- D $\frac{1}{a^6b^2}$

15. Evaluate: $\frac{3(m^{10}y)^0 \times y^5}{y^6} + \sqrt{25y^2} \times y^{-2} - \frac{(m^{-1}y)^3}{m^{-3}y^4}$

- A $\frac{5}{y}$
- B $\frac{4+3y}{y}$
- C $\frac{2+5y}{y}$
- D $\frac{7}{y}$

23. $5bac^2 + \frac{cab^2}{3} - 4ab^2c + acb^2$

How many like terms does the expression have?

- A 0
- B 2
- C 3
- D 4

24. $x(x^4) - \frac{x^3}{4} - \sqrt{x^8} + \frac{1}{3}$

Identify the numeric coefficient of x^4 .

- A 1
- B $-\frac{1}{4}$
- C -1
- D $\frac{1}{3}$

25. Which of the following is a binomial?

- A $2 \times x^2 + 5y$
- B $2 \times x^2 \div 5y$
- C $2 \times x^2 + 5 - y$
- D $2 - x^2 + 5 - y$

26. Simplify: $-a(a - 3) - a^2$

- A $2a^2 - 3a$
- B $3a$
- C $-2a^2 + 3a$
- D $-3a$

27. Simplify: $\frac{x^3 + x^3}{\sqrt{16x^4}}$

A $\frac{1}{2}x^4$

B $\frac{1}{2}x$

C $\frac{1}{4}x$

D $\frac{1}{4}x^4$

28. Simplify: $(\sqrt[3]{-27a^6} - 2a^2)^3$

A $125a^6$

B $-125a^5$

C $125a^5$

D $-125a^6$

29. Simplify: $(3n - 5)^2$

A $9n^2 - 25$

B $9n^2 - 30n - 25$

C $9n^2 - 30n + 25$

D $9n^2 + 25$

30. $x + 2y = -2$.

What is the value of $(2y + x)^3$?

- A 8
- B -6
- C 6
- D -8

31. Factorise: $4m^2 - 9$

- A $(2m + 3)(2m - 3)$
- B $(2m - 3)(2m - 3)$
- C $(4m - 3)(4m - 3)$
- D $(4m + 3)(4m - 3)$

32. Factorise: $x^2 - \frac{3}{4}x + \frac{1}{8}$

- A $\left(x - \frac{1}{2}\right)\left(x - \frac{1}{4}\right)$
- B $\left(x + \frac{1}{2}\right)\left(x - \frac{1}{4}\right)$
- C $\left(x - \frac{1}{2}\right)\left(x + \frac{1}{4}\right)$
- D $\left(x + \frac{1}{2}\right)\left(x + \frac{1}{4}\right)$

33. Factorise completely: $4x^2 - 20x - 24$

- A $4(x - 6)(x + 1)$
- B $4(x + 6)(x - 1)$
- C $4(x - 3)(x - 2)$
- D $4(x + 3)(x - 2)$

34. Factorise completely: $x^2(x - 3) + 4(3 - x)$

- A $(x - 3)(x^2 + 4)$
- B $(x - 3)(x - 2)(x - 2)$
- C $(3 - x)(x^2 + 4)$
- D $(x - 3)(x + 2)(x - 2)$

35. Simplify: $\left(1 - \frac{1}{a}\right) \div \left(a - \frac{1}{a}\right)$

- A $\frac{1}{a + 1}$
- B $\frac{1}{a - 1}$
- C $a + 1$
- D $a - 1$

61. Simplify:

$$\left(\frac{x^{-3}y}{-2x^{-2}}\right)^{-3}$$

62. Simplify:

$$\frac{2m^2 - 2m}{m} \times \frac{1}{m^2 - 2m + 1}$$