Name: Date:

01. Which of the following is an expression?

(a). 4x + 7   (b). 3   (c). ½   (d). 30

02. Which of the following is a binomial?

(a). 3x   (b). 2x + 7   (c). 4x + y +2   (d). 7 – 3x + 4

03. Which of the following is like term as 7xy?

(a). 9x   (b). 9y   (c). 9xy   (d). 9

04. Add: 7xy + 5yz – 3zx, 4yz + 9zx – 4y, –3xz + 5x – 2xy.

(a). 5xy+9yz+2zx+5x–4y   (b). 5xy + 9yz +3zx + 4y

(c). 5xy + 3zx + 5x – 4y   (d). 5xy+9yz+3zx+5x–4y

05. Which of the following is an expression?

(a). 3x – 2   (b). 2   (c). ½   (d). 3

06. Which of the following is a monomial?

(a). 2x + 7   (b). 3x   (c). 4x + y +2   (d). 7 – 3x + 4

07. Which of the following is like term as $4a^2b$?

(a). 9a   (b). 9b   (c). $9a^2b$ (d). $9a^2$

08. Subtract $7x – 3x^2$ from $4x + 8x^2$.

(a). – 3x   (b). $11x^2$ (c). $11x^2 – 5x$ (d). $11x^2 – 3x$

09. Which of the following is an expression?

(a). 9ab +7   (b). 7   (c). ¼   (d). 9

10. Which of the following is a trinomial?

(a). 2x + 7   (b). 7 – 3x + 4y   (c). 4x + y   (d). 3x

11. Which of the following is like term as $3xy^2$?

(a). 7x   (b). 7y   (c). $7xy^2$ (d). $7y^2$

12. Subtract 3x (x – 4y + 5z) from 4x (2x – 3y + 10z).

(a). $5x^2$ (b). 25xz   (c). $5x^2 + 25xy$ (d). $5x^2 + 25xz$

13. (x – a (x + a) =?

(a). $x^2 – a^2$ (b). $x – a^2$ (c). $x + a^2$ (d). $x^2 + a^2$

14. Which of the following is a trinomial?

(a). 2x + 7   (b). 3a + 4b + 5   (c). 4x + y   (d). 3x

15. Which of the following is like term as $7x^2y^2$?

(a). 7x   (b). 7y   (c). $13x^2y^2$ (d). $7y^2$

16. 501 × 502 =?

(a). 251500   (b). 250000   (c). 150000   (d). 251502

17. Which of the following is like term as 6xyz?

(a). 7xy   (b). 7yz   (c). 7xyz   (d). 7xz

18. 95 × 103 =?

(a). 9700   (b). 9600   (c). 9000   (d). 9785

Q01. Using suitable identities find $(xy + 3p)^2$.

Q02. Using identity

(a) $(x - a)(x + a) = x^2 - a^2$ find $6^2 - 5^2$ (b) $[2x/3 - 5][2x/3 + 5]$ (c) 297 × 303

Q03. Simplify:

(a) $(xy + yz)^2 - (xy - yz)^2$ (b) $(x + y)(2x-3y + z) - (2x - 3y)z$

(c) $(1.5x - 4y)(1.5x + 4y +3) - 4.5x +12y$

Q04. Simplify $(xy + yz)^2 - 2x^2y^2z$. Find the value when x = -1, y = 1 and z = 2.

Q05. Verify the identity $(x + a)(x + b) = x^2 + (a + b)x + ab$ for a = 2, b = 3 and x = 4.

Q06. Simplify the expression $x(2x - 1) + 5$ and its value at x = −2.

Q07. Simplify: $(4m + 5n)^2 + (5m + 4n)^2$.

Q08. Show that $(a - b)(a + b) + (b - c)(b + c) + (c - a)(c + a) = 0$.

Q09. Find the LCM of   (a). $-3^{m+1}, -3^5, -3^7$ (b). $-4^5, -4^{10}, 2^5$

Q10. Add the following expressions:

(a) $a^2 + 3ab - bc, b^2 + 3bc - ca$ and $c^2 + 3ca - ab$

(b) $x^3 - x^2y - xy^2 - y^3$ and $x^3 - 2x^2y + 3xy^2 + 4y$

Q11. Subtract:

(a) $x^4 + 3x^3y^3 + 5y^4$ from $2x^4 - x^3y^3 + 7y$

(b) $x^3y^2 + 3x^2y^2 - 7xy^3$ from $x^4 + y^4 + 3x^2y^2 - xy^3$

Q12. Find the values of following polynomials at m = −3, n = −1 and p = 2:

(a) $m^3 + n^3 + p^3 - 3mnp$ (b) $m^2n^2 + n^2p^2 + p^2m^2$

Q13. (a)What should be subtracted from $(2x^3-3x^2y+2xy^2 + 3y^3)$ to get $(x^3 - 2x^2y + 3xy^2 + 4y^3)$?

(b) What should be subtracted from $(-7mn + 2m^2 + 3n^2)$ to get $(m^2 + 2mn + n^2)$?

Q14. (a) How much is $(y^4 - 12y^2 + y + 14)$ greater than $(17y^3 + 34y^2 - 51y + 68)$?

(b) How much does $(93p^2 - 55p + 4)$ exceed $(13p^3 - 5p^2 + 17p - 90)$?

Q15. Subtract the sum of $(12ab - 10b^2 - 18a^2)$ and $(9ab + 12b^2 + 14a^2)$ from the sum of $(ab + 2b^2)$ & $(3b^2 - a^2)$.