

Ch-12 Algebraic Expressions.

1. Re write the following statements using algebraic expression:
 - a) The sum of numbers 100 and x .
 - b) 75 less than the sum of two numbers a and b .
 - c) One fourth of a number x added to half of a number y .
 - d) 13 less than quotient of x by y , where y is not equal to zero.
 - e) 17 more than 4 times the product of two numbers x and y .
 - f) A number multiplied by itself 100 times.
 - g) The product of 9 and b divided by thrice the sum of two numbers x and y .
 - h) The sum of three numbers a , b and c , when multiplied by twice the product of two number x and y .
2. Classify the following expressions as monomial, binomial and trinomial:
 - a) $4x^2 + x^2y - 2x^2$
 - b) $3a(b + c)$
 - c) $7x^2y^2z^2$
 - d) $3m^{2n} + 10mn^2 + 9$
3. Identify in the following expressions, terms which are not constants. Give their numerical coefficients:
 - a) $4xy^2 - \frac{7}{8}xy + 50$
 - b) $39 - \frac{2}{5}x^2y + xy^2 + 40xny$
 - c) $-23m^2n^2 + m^2 + n^2 - mn + 1$
4. Identify the terms and factors in the expressions given below:
 - a) $7p^2q^2 - 8pq + 6$
 - b) $-24 + 2x^2yz + xy^2z + zx$
5. Identify the term containing xy and give the coefficient of xy .
 - a) $44xy(m+n) - \frac{7}{8}xy + 10$
 - b) $x^2 - 5xy + 4xyz^2$
6. Simplify the expressions and find the value if $m = 2$ and $n = (-3)$
 - a) $(2m - 7n + 5) - (-7m - n + 4)$
 - b) $m^2 - 2n^2 - 3(2m^2 + n^2 - 2mn)$
7. Add the following expressions:
 - a) $8p^2 - 7p - 9, 4 + 7p^2 - 2p, 5p - 4p^2$
 - b) $-ab + bc + ca, -3ab + 5bc - 8ca, -8bc + 2ca.$
 - c) $48m^3 + 10n^3 - 2mn, 22m^3 - 8mn + n^3, -m^3 + n^3$
9. What should be the value of k if the value of $4xz - 3xk + 4z^2$ is 2 for $x = 1$ and $z = -11$
10. Subtract the following:
 - a) $9xy + 12y - 13x$ from $14y - 4xy + 2x$
 - b) $m^2 - 2n^2$ from $2m^2 + n^2 - 2mn$
11. Subtract the sum of $(8m - 7n + 6p^2)$ and $(-3m - 4n - p^2)$ from the sum of $(2m + 4n - 3p^2)$ and $(-m - n - p^2)$
12. What should be added to $a^2 + 3ab$ to obtain $5ab + 6a^2$
13. What should be subtracted from $(3x^2 + x - 6)$ to get $(x^2 + 9x - 10)$.
14. How much is $(3x^2 - 7x - 9)$ greater than $(5x - 4x^2)$
15. What should be the value of m if the value of $2x^2 + mx - 3$ is equal to 8 when $x = 1$?

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