

Algebraic expression

Q.1 Evaluate each of the following algebraic expressions for $x = 1, y = -1, z = 2, a = -2, b = 1, c = -2$:

(i) $ax + by + cz$ (ii) $ax^2 + by^2 - cz$

Q.2 Add the following expressions: $x^3 - 2x^2y + 3xy^2 - y^3, 2x^3 - 5xy^2 + 3x^2y - 4y^3$

Q.3 From $p^3 - 4 + 3p^2$, take away $5p^2 - 3p^3 + p - 6$

Q.4 Subtract the sum of $13x - 4y + 7z$ and $-6z + 6x + 3y$ from the sum of $6x - 4y - 4z$ and $2x + 4y - 7$.

Q.5 What should be subtracted from $x^2 - xy + y^2 - x + y + 3$ to obtain $-x^2 + 3y^2 - 4xy + 1$?

Q.6 How much does $a^2 - 3ab + 2b^2$ exceed $2a^2 - 7ab + 9b^2$?

Q.7 If $P = 7x^2 + 5xy - 9y^2, Q = 4y^2 - 3x^2 - 6xy$ and $R = -4x^2 + xy + 5y^2$, show that $P + Q + R = 0$.

Q.8 Simplify each of the following algebraic expressions:

1. $-2(x^2 - y^2 + xy) - 3(x^2 + y^2 - xy)$ 2. $3x + 2y - \{x - (2y - 3)\}$

3. $5 + [x - \{2y - (6x + y - 4) + 2x\} - \{x - (y - 2)\}]$

Q.9 A wire is bent to form a triangle . if the length of sides $3x^2 - 4x$ cm, $2x^2 - 4$ cm, and $6x + 2$ cm find the length of wire?

Q.10 Raj father's present age is 4 times Raj's age. Raj's grandfather age is 15 years more than the sum of Raj's age and Raj's father's age.

a) Find Raj's grandfather age in term of 'x'

b) If Raj's age is 10 years old find his father and grandfather age

