Algebraic Expressions Ex 7.2 Q19

Answer :

Let 'M' be the required expression. Then, we have

$x^2 - xy + y^2 - x + y + 3 - M = - x^2 + 3y^2 - 4xy + 1$

Therefore,

$M = (x^2 - xy + y^2 - x + y + 3) - (- x^2 + 3y^2 - 4xy + 1)$

$= x^2 - xy + y^2 - x + y + 3 + x^2 - 3y^2 + 4xy - 1$

Collecting positive and negative like terms together, we get

$x^2 + x^2 - xy + 4xy + y^2 - 3y^2 - x + y + 3 - 1$

$= 2x^2 + 3xy - 2y^2 - x + y + 2$

Algebraic Expressions Ex 7.2 Q20

Answer :

Required expression $= (x - 2y + 3z) - (3x + 5y - 7)$

$= x - 2y + 3z - 3x - 5y + 7$

Collecting positive and negative like terms together, we get

$x - 3x - 2y - 5y + 3z + 7$

$= - 2x - 7y + 3z + 7$

Algebraic Expressions Ex 7.2 Q21

Answer :

Required expression $= (a^2 - 3ab + 2b^2) - (2a^2 - 7ab + 9b^2)$

$= a^2 - 3ab + 2b^2 - 2a^2 + 7ab - 9b^2$

Collecting positive and negative like terms together, we get

$= a^2 - 2a^2 - 3ab + 7ab + 2b^2 - 9b^2$

$= - a^2 + 4ab - 7b^2$

Algebraic Expressions Ex 7.2 Q22

Answer :

Let 'M' be the required expression. Thus, we have

$12x^3 - 4x^2 + 3x - 7 + M = x^3 + 2x^2 - 3x + 2$

Therefore,

$M = (x^3 + 2x^2 - 3x + 2) - (12x^3 - 4x^2 + 3x - 7)$

$= x^3 + 2x^2 - 3x + 2 - 12x^3 + 4x^2 - 3x + 7$

Collecting positive and negative like terms together, we get

$x^3 - 12x^3 + 2x^2 + 4x^2 - 3x - 3x + 2 + 7$

$= - 11x^3 + 6x^2 - 6x + 9$

Algebraic Expressions Ex 7.2 Q23

Answer :

We have

$P + Q + R = (7x^2 + 5xy - 9y^2) + (4y^2 - 3x^2 - 6xy) + (- 4x^2 + xy + 5y^2)$

$= 7x^2 + 5xy - 9y^2 + 4y^2 - 3x^2 - 6xy - 4x^2 + xy + 5y^2$

Collecting positive and negative like terms together, we get

$7x^2 - 3x^2 - 4x^2 + 5xy - 6xy + xy - 9y^2 + 4y^2 + 5y^2$

$= 7x^2 - 7x^2 + 6xy - 6xy - 9y^2 + 9y^2$

$= 0$

Algebraic Expressions Ex 7.2 Q24

Answer :

We have

$P + Q + R + S - T = \{(a^2 - b^2 + 2ab) + (a^2 + 4b^2 - 6ab) + (b^2 + b) + (a^2 - 4ab)\} - (-2a^2 + b^2 - ab + a)$

$= \{a^2 - b^2 + 2ab + a^2 + 4b^2 - 6ab + b^2 + b + a^2 - 4ab\} - (- 2a^2 + b^2 - ab + a)$

$= \{3a^2 + 4b^2 - 8ab + b\} - (-2a^2 + b^2 - ab + a)$

$= 3a^2 + 4b^2 - 8ab + b + 2a^2 - b^2 + ab - a$

Collecting positive and negative like terms together, we get

$3a^2 + 2a^2 + 4b^2 - b^2 - 8ab + ab - a + b$

$= 5a^2 + 3b^2 - 7ab - a + b$

********** END **********