Factorisation of Algebraic Expressions Ex 5.1 Q10
Answer:

The given expression to be factorized is

$(x+2)(x^2+25)-10x^2-20x$

Take common $-10x$ from the last two terms. That is

$(x+2)(x^2+25)-10x^2-20x = (x+2)(x^2+25)-10x(x+2)$

Again take common $(x+2)$ from the two terms of the above expression. Then

$(x+2)(x^2+25)-10x^2-20x = (x+2)\{(x^2+25)-10x\}$

$\qquad\qquad\qquad\qquad\qquad\qquad = (x+2)(x^2+25-10x)$

$\qquad\qquad\qquad\qquad\qquad\qquad = (x+2)(x^2-10x+25)$

$\qquad\qquad\qquad\qquad\qquad\qquad = (x+2)\{(x)^2-2.x.5+(5)^2\}$

$\Rightarrow (x+2)(x^2+25)-10x^2-20x = (x+2)(x-5)^2$

We cannot further factorize the expression.

So, the required factorization of $(x+2)(x^2+25)-10x^2-20x$ is $\boxed{(x+2)(x-5)^2}$.

Factorisation of Algebraic Expressions Ex 5.1 Q11
Answer:

The given expression to be factorized is

$2a^2+2\sqrt{6}ab+3b^2$

This can be written in the form

$2a^2+2\sqrt{6}ab+3b^2 = (\sqrt{2}a)^2+2.\sqrt{2}a.\sqrt{3}b+(\sqrt{3}b)^2$

$\qquad\qquad\qquad\qquad = (\sqrt{2}a+\sqrt{3}b)^2$

We cannot further factorize the expression.

So, the required factorization of $2a^2+2\sqrt{6}ab+3b^2$ is $\boxed{(\sqrt{2}a+\sqrt{3}b)^2}$.

Factorisation of Algebraic Expressions Ex 5.1 Q12
Answer:

The given expression to be factorized is

$(a-b+c)^2+(b-c+a)^2+2(a-b+c)(b-c+a)$

This can be written as

$(a-b+c)^2+(b-c+a)^2+2(a-b+c)(b-c+a)$

$= (a-b+c)^2+2.(a-b+c).(b-c+a)+(b-c+a)^2$

$= \{(a-b+c)+(b-c+a)\}^2$

$= (a-b+c+b-c+a)^2$

$= (2a)^2$

$= 4a^2$

We cannot further factorize the expression.

So, the required factorization of $(a-b+c)^2+(b-c+a)^2+2(a-b+c)(b-c+a)$ is $\boxed{4a^2}$.

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