

Factorizations Ex 7.2 Q5

Answer:

The greatest common factor of the terms $20x^3$, $-40x^2$ and 80x of the expression $20x^3$ - $40x^2$ + 80x is 20x. Now, $20x^3 = 20x \times x^2$ $-40x^2 = 20x \times -2x$ and $80x = 20x \times 4$ Hence, the expression $20x^3$ - $40x^2$ + 80x can be factorised as $20x(x^2 - 2x + 4)$.

Factorizations Ex 7.2 Q6

Answer:

The greatest common factor of the terms $2x^3y^2$, $-4x^2y^3$ and $8xy^4$ of the expression $2x^3y^2 - 4x^2y^3 + 8xy^4y^{64}$ is $2xy^2$.

Now, $2x^3y^2 = 2xy^2 \times x^2$ $-4x^2y^3 = 2xy^2 \times -2xy$ $8xy^4 = 2xy^2 \times 4y^2$

Hence, the expression $2x^3y^2 - 4x^2y^3 + 8xy^4$ can be factorised as $2xy^2(x^2 - 2xy + 4y^2)$.

Factorizations Ex 7.2 Q7

Answer:

The greatest common factor of the terms $10m^3n^2$, $15m^4n$ and $-20m^2n^3$ of the expression $10m^3n^2 + 15m^4n - 20m^2n^3$ is $5m^2n$.

Now, $10m^3n^2 = 5m^2n \times 2mn$ $15m^4n = 5m^2n \times 3m^2$ $-20m^2n^3 = 5m^2n \times -4n^2$

Hence, $10\text{m}^3\text{n}^2 + 15\text{m}^2\text{n} - 20\text{m}^2\text{n}^3$ can be factorised as $5\text{m}^2\text{n}(2\text{mn} + 3\text{m}^2 - 4\text{n}^2)$.

Factorizations Ex 7.2 Q8

Answer

The greatest common factor of the terms $2a^4b^4$, $-3a^3b^5$ and $4a^2b^5$ of the expression $2a^4b^4$ - $3a^3b^5$ + $4a^2b^5$ is a^2b^4 .

Now, $2a^4b^4 = a^2b^4 \times 2a^2$ $-3a^3b^5 = a^2b^4 \times -3ab$ $4a^2b^5 = a^2b^4 \times 4b$

Hence, $(2a^4b^4 - 3a^3b^5 + 4a^2b^5)$ can be factorised as $[a^2b^4(2a^2 - 3ab + 4b)]$.

Factorizations Ex 7.2 Q9

Answer:

The greatest common factor of the terms $28a^2$, $14a^2b^2$ and $21a^4$ of the expression $28a^2+14a^2b^2-21a^4$ is $7a^2$. Also, we can write $28a^2=7a^2\times 4$, $14a^2b^2=7a^2\times 2b^2$ and $21a^4=7a^2\times 3a^2$. $\therefore 28a^2+14a^2b^2-21a^4=7a^2\times 4+7a^2\times 2b^2-7a^2\times 3a^2$ $=7a^2\Big(4+2b^2-3a^2\Big)$

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