$$= 2x(x+5) - 9(x+5)$$
$$= (2x-9)(x+5)$$

Q33

Answer :

The given expression is $6p^2 + 11p - 10$.
Find two numbers that follow the conditions given below :
Sum $= 11$
Product $= 6 \times -10 = -60$
Clearly, the numbers are 15 and -4.
$6p^2 + 11p - 10 = 6p^2 + 15p - 4p - 10$
$$= 3p(2p+5) - 2(2p+5)$$
$$= (2p+5)(3p-2)$$

Q34

Answer :

The given expression is $2x^2 - 17x - 30$.
Find two numbers that follow the conditions given below :
Sum $= -17$
Product $= -30 \times 2 = -60$
Clearly, the numbers are -20 *and 3.*
$2x^2 - 17x - 30 = 2x^2 - 20x + 3x - 30$
$$= 2x(x-10) + 3(x-10)$$
$$= (2x+3)(x-10)$$

Q35

Answer :

The given expression is $7y^2 - 19y - 6$.
Find two numbers that follow the conditions given below :

$Sum = -19$
$Product = 7 \times -6 = -42$
Clearly, the numbers are -21 and 2.
$$7y^2 - 19y - 6 = 7y^2 - 21y + 2y - 6$$
$$= 7y(y-3) + 2(y-3)$$
$$= (7y+2)(y-3)$$

Q36

Answer :

The given expression is $28 - 31x - 5x^2$.
Find two numbers that follow the conditions given below :
$Sum = -31$
$Product = 28 \times -5 = -140$
Clearly, the numbers are -35 and 4.
$$28 - 31x - 5x^2 = 28 + 4x - 35x - 5x^2$$
$$= 4(x+7) - 5x(7+x)$$
$$= (x+7)(4-5x)$$

Q37

Answer :

The given expression is $3 + 23z - 8z^2$.
Find two numbers that follow the conditions given below :
$Sum = 23$
$Product = 3 \times -8 = -24$
Clearly, the numbers are 24 and -1.
$$3 + 23z - 8z^2 = 3 + 24z - z - 8z^2$$
$$= 3(1+8z) - z(1+8z)$$
$$= (1+8z)(3-z)$$

Q38

Answer:

The given expression is $6x^2 - 5x - 6$.

Find two numbers that follow the conditions given below:

$Sum = -5$

$Product = -6 \times 6 = -36$

Clearly, the numbers are -9 and 4.

$$6x^2 - 5x - 6 = 6x^2 - 9x + 4x - 6$$
$$= 3x(2x - 3) + 2(2x - 3)$$
$$= (2x - 3)(3x + 2)$$

Q39

Answer:

The given expression is $3m^2 + 24m + 36$.

Find two numbers that follow the conditions given below:

$Sum = 24$

$Product = 36 \times 3 = 108$

Clearly, the numbers are 18 and 6.

$$3m^2 + 24m + 36 = 3m^2 + 18m + 6m + 36$$
$$= 3m(m + 6) + 6(m + 6)$$
$$= (3m + 6)(m + 6) = 3(m + 2)(m + 6)$$

Q40

Answer:

The given expression is $4n^2 - 8n + 3$.

Find two numbers that follow the conditions given below:

$Sum = -8$

$Product = 4 \times 3 = 12$

Clearly, the numbers are -6 *and* -2.

$$4n^2 - 8n + 3 = 4n^2 - 2n - 6n + 3$$
$$= 2n(2n - 1) - 3(2n - 1)$$
$$= (2n - 1)(2n - 3)$$

Q41

Answer:

The given expression is $6x^2 - 17x - 3$.

Find two numbers that follow the conditions given below:

Sum $= -17$

Product $= 6 \times -3 = -18$

Clearly, the numbers are -18 *and* 1.

$$6x^2 - 17x - 3 = 6x^2 - 18x + x - 3$$
$$= 6x(x - 3) + 1(x - 3)$$
$$= (6x + 1)(x - 3)$$

Q42

Answer:

The given expression is $7x^2 - 19x - 6$.

Find two numbers that follow the conditions given below:

Sum $= -19$

Product $= 7 \times -6 = -42$

Clearly, the numbers are -21 *and* 2.

$$7x^2 - 19x - 6 = 7x^2 - 21x + 2x - 6$$
$$= 7x(x - 3) + 2(x - 3)$$
$$= (7x + 2)(x - 3)$$

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