

### Exercise 6A

### Q12

### Answer:

Writing the terms of the given expressions (in the same order) in the form of rows with like terms below each other and subtracting column-wise:

$$-11p \\ -16p \\ + \\ 5p$$

### Q13

#### Answer:

Writing the terms of the given expressions (in the same order) in the form of rows with like terms below each other and subtracting column-wise:

$$3a - 4b - c + 6
2a - 5b + 2c - 9
- + - +
a + b - 3c + 15$$

### Q14

#### Answer:

Writing the terms of the given expressions (in the same order) in the form of rows with like terms below each other and subtracting column-wise:

$$p-2q-5r-8 \\ -6p+q+3r+8 \\ +--- \\ 7p-3q-8r-16$$

# Q15

### Answer:

On arranging the terms of the given expressions in the descending powers of  ${\boldsymbol x}$  and subtracting column-wise:

$$3x^{3} - x^{2} + 2x - 4$$

$$x^{3} + 3x^{2} - 5x + 4$$

$$- - + -$$

$$2x^{3} - 4x^{2} + 7x - 8$$

# Q16

### Answer:

Arranging the terms of the given expressions in the descending powers of  ${\boldsymbol x}$  and subtracting columnwise:

$$4y^4 - 2y^3 - 6y^2 - y + 5$$

$$5y^4 - 3y^3 + 2y^2 + y - 1$$

$$- + - +$$

$$-y^4 + y^3 - 8y^2 - 2y + 6$$

# Q17

#### Answer:

Writing the terms of the given expressions (in the same order) in the form of rows with like terms below each other and subtracting column-wise:

# Q18

### Answer:

Let the required number be x.

$$\left(3a^2 - 6ab - 3b^2 - 1\right) - x = 4a^2 - 7ab - 4b^2 + 1$$
 $\left(3a^2 - 6ab - 3b^2 - 1\right) - \left(4a^2 - 7ab - 4b^2 + 1\right) = x$ 

$$3a^{2} - 6ab - 3b^{2} - 1$$
 $4a^{2} - 7ab - 4b^{2} + 1$ 
 $- + + -a^{2} + ab + b^{2} - 2$ 

 $\therefore$  Required number =  $-a^2 + ab + b^2 - 2$ 

# Q19

## Answer:

Sides of the rectangle are  $\boldsymbol{l}$  and  $\boldsymbol{b}$ .

$$l = 5x^2 - 3y^2$$

$$b = x^2 + 2xy$$

Perimeter of the rectangle is (2l+2b).

$$ext{Perimeter} \ = \ 2 \Biggl( 5x^2 - 3y^2 \Biggr) \ + \ 2 \Biggl( x^2 + 2xy \Biggr) \ = \ 10x^2 - 6y^2 + 2x^2 + 4xy \ rac{10x^2 - 6y^2}{2x^2 \ + 4xy} \ rac{2x^2 \ + 4xy}{12x^2 - 6y^2 + 4xy}$$

Hence, the perimeter of the rectangle is  $12x^2 - 6y^2 + 4xy$ .

Q20

### Answer:

Let a, b and c be the three sides of the triangle.

 $\therefore$  Perimeter of the triangle = (a+b+c)

Given perimeter of the triangle =  $6p^2 - 4p + 9$ 

One side (a) =  $p^2 - 2p + 1$ 

Other side (b) =  $3p^2 - 5p + 3$ 

Perimeter = (a+b+c)

$$(6p^2 - 4p + 9) = (p^2 - 2p + 1) + (3p^2 - 5p + 3) + c$$

$$6p^2 - 4p + 9 - p^2 + 2p - 1 - 3p^2 + 5p - 3 = c$$

$$(6p^2 - p^2 - 3p^2) + (-4p + 2p + 5p) + (9 - 1 - 3) = c$$

$$2p^2 + 3p + 5 = c$$

Thus, the third side is  $2p^2 + 3p + 5$ .

\*\*\*\*\*\*\*\*\* END \*\*\*\*\*\*\*