Important Questions for Class 7 Maths Chapter 10: Chapter 10 of Class 7 Maths, Algebraic Expressions, introduces students to the fundamentals of algebra, including terms, coefficients, and operations on algebraic expressions. Important questions often include simplifying expressions, identifying terms, coefficients, and like terms, and performing addition and subtraction of algebraic expressions.

Problems forming expressions from given statements and verifying identities are also common. Practice questions include finding the value of expressions for given variables' values and using identities effectively. Below, we have provided a curated list of important questions to help students strengthen their understanding and perform well in exams.

Important Questions for Class 7 Maths Chapter 10 Overview

Important Questions for Class 7 Maths Chapter 10, forms the foundation for higher-level algebra and develops critical problem-solving skills. Practicing important questions from this chapter helps students strengthen their understanding of key concepts such as terms, coefficients, like and unlike terms, and operations on algebraic expressions.

Important Questions for Class 7 Maths Chapter 10 also focus on simplifying expressions, forming expressions from statements, and evaluating expressions for specific variable values. Mastering these ensures better performance in exams and builds confidence for advanced topics in algebra. Below, we have provided a list of important questions to reinforce understanding and enhance mathematical proficiency effectively.

Important Questions for Class 7 Maths Chapter 10 Algebraic Expressions

Below is the Important Questions for Class 7 Maths Chapter 10 Algebraic Expressions -

Question 1. Using variables, constants and arithmetic operations, give the algebraic expression in the following cases.

- **Give the algebraic expression for the subtraction of z from y.**
- **Give an algebraic expression of one-half of the sum of numbers x and y.**
- **Give an algebraic expression of the number z multiplied by itself.**
- **Give an algebraic expression of one-fourth of the product of numbers p and q.**
- **Give an algebraic expression of numbers x and y which are the numbers and both squared and added.**

- **Give the algebraic expression for number 5 added to three times the product of numbers m and n.**
- **Give the algebraic expression for products of numbers y and z subtracted from 10.**
1. **Give an algebraic expression of the sum of numbers a and b subtracted from their product**.

Answer 1: The solution for the above options is given below:

1. Y – z
2. ½ (x + y)= (x+y)/2
3. z × z = z2
4. ¼ (p × q) = pq/4
5. X2 + y2
6. 3mn + 5
7. 10 – (y × z) = 10-yz
8. (a × b) – (a + b)= ab – (a + b)a

Question 2. Identify in the following expressions the terms and their factors.

- **x – 3**
- **1 + x + x2**
- **y – y3**
- **5xy2 + 7x2y**
- **-ab + 2b2 – 3a2**
- **-4x + 5**
- **-4x + 5y**
- **5y + 3y2**
- **xy + 2x2y2**
- **pq + q**
- **1.2 ab – 2.4 b + 3.6 a**
- **¾ X + ¼**
- **0.1 p2 + 0.2 q2**

Expression	Terms	Factors
x – 3	x, -3	x, -3
1 + x + x2	1, x, x2	1; x ; x, x
y – y3	y, -y3	y; -y, -y, -y
5xy2 + 7x2y	5xy2, 7x2y	5, x, y, y; 7, x, x, y
-ab + 2b2 – 3a2	-ab, 2b2, – 3a2	-a, b; 2, b, b; -3, a, a
-4x + 5	-4x, 5	-4, x, 5

-4x + 5y	-4x, 5y	-4, x ; 5, y
5y + 3y2	5y, 3y2	5, y; 3, y, y
xy + 2x2y2	xy, 2x2y2	x, y, ; 2, x, x, y, y
pq + q	pq, q	p, q, q
1.2 ab – 2.4 b + 3.6 a	1.2 ab, 2.4 b, 3.6 a	1.2, a, b, 2.4, b, 3.6, a
¾ X + 1/4	¾ X, ¼	¾, X, ¼
0.1 p2 + 0.2 q2	0.1 p2 , 0.2 q2	0.1, p, p, 0.2, q, q

Question 3. What is an expression, and a coefficient. Identify the numerical coefficient of terms other than constants in the following expressions.

- **5 – 3t2**
- **1 + t + t2 + t3**
- **x + 2xy + 3y**
- **100m + 100n**
- **-p2q2 + 7pq**
- **1.2 a + 0.8 b**
- **3.14 r2**
- **2 (l + b)**
- **0.1 y + 0.01 y2**

Answer 3:

An algebraic expression is the combination of variables and constants which are connected by the signs of fundamental operations means +, – , ×, ÷

Some of the examples of algebraic expression are:

2x + 3y

5 m × n -2q

5a ÷ b + 3c

Coefficient is defined as the number multiplied by a variable or variables.

In 3x, the coefficient is 3

In 5yz, coefficient is 5

Expression	Terms	Coefficients
5 – 3t2	– 3t2	-3
1 + t + t2 + t3	t	1
	t2	1
	t3	1
x + 2xy + 3y	x, 2xy ,3y	1, 2, 3
100m + 1000n	100m, 1000n	100, 1000
-p2q2 + 7pq	-p2q2 , 7pq	-1, 7
1.2 a + 0.8 b	1.2 a , 0.8 b	1.2, 0.8
3.14 r2	3.14 r2	3.14
2 (l + b)	2l, 2b	2, 2
0.1 y + 0.01 y2	0.1 y, 0.01 y2	0.1, 0.01

Question 4. Identify the terms which contain x (1 to 7)or y (8 to 10) separately and give the coefficient for x or y in the table form.

- **y2x + y**
- **13 y2 – 8yx**
- **x + y + 2**
- **5 + z + zx**
- **1 + x + xy**
- **12 xy2 + 25**
- **7x + xy2**
- **8 – xy2**
- **5y2 + 7x**
- **2x2y – 15xy2 + 7y2**

Answer 4:

Expression	Terms	Coefficient of x
y2x + y	y2x	y2
13 y2 – 8yx	-8yx	-8y

x + y + 2	x	1
5 + z + zx	x, zx	1, z
1 + x + xy	xy	y
12 xy2 + 25	12 xy2	12 y2
7x + xy2	7x, xy2	7, y2
Expression	Term	Coefficient of y2
8 – xy2	-xy2	-x
5y2 + 7x	5y2	5
2x2y – 15xy2 + 7y2	-15xy2, 7y2	-15x, 7

Question 5. Identify the like terms in the following:

- **-xy2, 3x, 2xy, -4yx2, y,8x2, 2xy2, -6x2, 20x2y, -11yx, -11×2, -100x, 2xy2, 7y**
- **10pq, 100q, 701p2, qp2,13p2q,7p, 8q, -7qp, -p2q2, -23, 12q2p2, -5p2, 41, 2405p, 78qp**

Answer 5: In the questioned mentioned above, when term have the same algebraic factors, they are like terms. Based on this, the like term can be written as:

1. -xy2, 2xy2

-4yx2, 20x2y

8x2, -11x2, -6x2

7y, y

-100x, 3x

-11yx, 2xy

2. 10pq, -7qp, 78qp

7p, 2405p

8q, -100q

-p2q2, 12q2p2

-23, 41

-5p2, 701p2

13p2q, qp2

Question 6. The pairs are given below, choose like and unlike terms from them and mention reason.

- **1, 100**
- **-7 x , 5/2 x**
- **-29 x, -29 y**
- **14 xy, 42 yx**
- **4 m2p, 4 mp2**
- **12 xz, 12 x2z2**

Answer 6:

1. This is the pair of like terms because they have the same algebraic factors.
2. This is the pair of like terms because they have the same algebraic factors.
3. This is the pair of unlike terms because the algebraic factors are different.
4. This is the pair of like terms because they have the same algebraic factors.
5. This is the pair of unlike terms because the algebraic factors are different.
6. This is the pair of unlike terms because the algebraic factors are different.

Question 7. What are monomials, binomials, and trinomials. Classify the following into these with reason.

- **4y – 7z**
- **y2**
- **x + y – xy**
- **100**
- **Ab – a – b**
- **5 – 3t**
- **4p2q – 4pq2**
- **7mn**
- **z2 – 3z + 8**
- **A2 + b2**
- **Z2 + z**
- **1 + x + x2**

Answer 7:

An expression which contains only one term is known as a monomial. When two terms are present in an expression it is called binomial. A Trinomial is when the expression contains three terms.

If a trinomial is a perfect square, then it is the square of a binomial.

Question	Category	Reason
4y – 7z	Binomial	Two unlike terms
y2	Monomial	Only one term
x + y – xy	Trinomial	Has three terms
100	Monomial	One term
ab – a – b	Trinomial	Three term
5 – 3t	Binomial	Has two unlike terms
4p2q – 4pq2	Binomial	Has two unlike terms
7mn	Monomial	Has only one term
z2 – 3z + 8	Trinomial	Has three terms
a2 + b2	Binomial	Has two unlike terms
z2 + z	Binomial	Has two unlike terms
1 + x + x2	Trinomial	Has three terms

Question 8. Fill in the blanks:

- **An algebraic expression in which the variables involved have only non-negative integer powers**

is called a _____.

- **Terms having the same literal coefficients are called _____.**
- **_____are those terms having different literal coefficients.**
- **Every polynomial is an _____, but every expression need not be a _____**
- **The polynomial degree is the highest degree of a _____which is present in the polynomial.**
- **The number for which the value of a polynomial is zero is called _____.**
- **If a trinomial is a perfect square, then it is the square of a _____.**
- **The parts of an algebraic expression are separated by the _____.**
- **_____ is the number multiplied by a variable or variables.**
- **If the sum of the coefficient is zero then the whole term becomes _____**
- **_____ in mathematics are written in a concise manner.**
- **The value of expression depends on the value of _____**
- **Algebraic expressions are formed from _____ and _____**

- **The operations used on the variables are _____, _____, _____ and _____**
- **Expressions are made up of _____**
- **A term is a _____**
- **The numerical factor in the term is called the _____**
- **Terms add and make _____**

1. Polynomial.
2. Like terms.
3. Unlike terms are those terms having different literal coefficients.
4. Every polynomial is an expression, but every expression need not be a polynomial.
5. The polynomial degree is the highest degree of a monomial which is present in the polynomial.
6. The number for which the value of a polynomial is zero is called zero of the polynomial.
7. If a trinomial is a perfect square, then it is the square of a binomial.
8. The parts of an algebraic expression are separated by the operational.
9. Co-efficient is the number multiplied by a variable or variables.
10. If the sum of the coefficients is zero then the whole term becomes zero
11. Algebraic expressions in mathematics are written in a concise manner.
12. The value of the expression depends on the value of the variables.
13. Algebraic expressions are formed from variables and constants.
14. The operations used on the variables are addition, subtraction, multiplication and division.
15. Expressions are made up of terms
16. A term is a product of factors
17. The numerical factor in the term is called the coefficient
18. Terms add and make expressions.

Question 9. Simplify combining the terms given below:

- **21b – 32 + 7b – 20b**
- **a– (a – b) – b – (b – a)**
- **3a – 2b – ab- (a – b + ab) + 3ab + b – a**

Solution:

1. They are like terms as they have the same algebraic factors. So it can be presented as

= (21b + 7b – 20b) – 32

=b (21 + 7 – 20) – 32

= b (28 – 20) – 32

= b (8) – 32

= 8b – 32

1. These are like terms as the terms have the same algebraic factors. So it could be presented as:

= a – a + b – b – b + a

= a – b

1. When the terms have the same algebraic factors then they are like terms. So it could be presented as:

= 3a – 2b – ab – a + b – ab + 3ab + b – a

= 3a – a – a – 2b + b + b – ab – ab + 3ab

= a (1 – 1 – 1) + b (-2 + 1 + 1) + ab (-1 -1 + 3)

= a(1 – 2) + b (-2 + 2) + ab (-2 + 3)= a(1) + b (0) + ab(1) = a + ab

Question 10. Add the following given below:

- **3mn, -5mn, 8mn, -4mn**
- **t – 8tz, 3tz – z, z – t**
- **-7mn + 5, 12mn + 2, 9mn – 8, -2mn-3**
- **a + b – 3, b – a + 3, a – b + 3**

Answer 10:

1. In the given question, all are the like terms as they have the same algebraic factors so when the like terms are added, it could be presented as:

3mn + (-5mn) + 8mn + (-4mn) = 3mn – 5mn + 8mn – 4mn

=mn (3 – 5 + 8 – 4)

=mn (11 – 9)

=mn (2) = 2mn

1. In the given question, all are the like terms as they have the same algebraic factors so when the like terms are added, it could be presented as:

= t – 8tz + (3tz – z) + (z – t)

= t – 8tz + 3tz – z + z – t

= t – t – 8tz + 3tz – z + z

=t (1 -1) + tz (-8 + 3) + z (-1 + 1)

=t (0) + tz (-5) + z (0)

=-5 tz

1. In the given question, all are the like terms as they have the same algebraic factors so when the like terms are added, it could be presented as:

= -7mn + 5 + 12mn + 2 + (9mn – 8) + (-2mn – 3)

= -7mn + 5 + 12mn + 2 + 9mn – 8 – 2mn – 3

= -7mn + 12mn + 9mn – 2mn + 5+ 2 – 8 – 3

=mn (-7 + 12 + 9 – 2) + (5 + 2 – 8 – 3)

=mn (-9 + 21) + (7 – 11)

= mn (12) – 4

= 12mn – 4

1. In the given question, all are the like terms as they have the same algebraic factors so when the like terms are added, it could be presented as:

= a + b – 3 + (b – a + 3) + (a – b + 3)

=a + b – 3 + b – a + 3 + a – b + 3

= a – a + a + b + b – b -3 + 3 + 3

= a(1 -1 + 1) + b(1 + 1 – 1) + (-3 + 3 + 3)

=a (2 -1) + b (2 -1) + (-3 + 6)

= a (1) + b (1) + (3)

= a + b + 3

Question 11. Write an expression for a number 8 which is subtracted from the sum of x and 3.

Answer 11: As per the given statement the equation will be written as:

(x + 3) – 8

Question 12. Simplify the following equation:

3 (2x + 1) + 4x + 15 when the given value of x is -1.

Answer 12:

We are given the equation as,

3 (2x + 1) + 4x + 15

This is the quadratic equation

on substituting the value of x as -1, we get

= 3 [2 (-1) + 1] + 4(-1) + 15

= 3(-2 + 1) – 4 + 15

= – 3 – 4 + 15

= – 7 + 15

= 8

Question 13. What is the value of the equation given that x = 8?

3x2 – 4x + 8

Answer 13: The given equation is,

3x2 – 4x + 8

= 3(8)2 – 4(8) + 8

= 3 (64) – 32 + 8

= 192 – 32 + 8

= 168

Question 14. When m = 0 ,calculate the value of p, The equation given is

3 m2 + m + p = 12

Solution 14.

3 m2 + m + p = 12

3 (0) + 0 + p = 12

p = 12

As calculated the value of p is 12

Question 15. Subtract the given below:

(i) –4x2 from x2

Solution:-

The term given has the same algebraic factors, so they are like terms.

On subtraction of these like terms, we will get

= x2 – (-4x2)

= x2 + 4x2

= 5x2

(ii) 6ab from –11ab

Solution:-

The term given has the same algebraic factors, so they are like terms.

On subtraction of these like terms we will get

= -11ab – 6ab

= – 17ab

(iii) (x– y) from (x + y)

Solution:-

The term given has the same algebraic factors, so they are like terms.

On subtraction of these like terms we will get

= (x + y) – (x – y)

= x + y – x + y

= x – x + y + y

= x (1 – 1) + y (1 + 1)

= x (0) + y (2)

= 2y

(iv) x (y – 5) from y (5 – x)

Solution:-

The term given has the same algebraic factors, so they are like terms.

On subtraction of these like terms we will get

= y (5 -x) – x (y – 5)

= 5y – xy – xy + 5x

= 5y + xy (-1 -1) + 5x

= 5x + 5y – 2xy

(v) –x2 + 5xy from 4x2 – 3xy + 8

Solution:-

The term given has the same algebraic factors, so they are like terms.

On subtraction of these like terms we will get

= 4x2 – 3xy + 8 – (- x2 + 5xy)

= 4x2 – 3xy + 8 + x2 – 5xy

= 4x2 + x2 – 3xy – 5xy + 8

= 5x2 – 8xy + 8

(vi) – a2 + 10a – 5 from 5a – 10

Solution:-

On subtraction, we will get

= 5a – 10 – (-a2 + 10x – 5)

= 5a – 10 + a2 – 10a + 5

= a2 + 5a – 10a – 10 + 5

= a2 – 5a – 5

Question 16. From the sum of 4 + 3a and 5 – 4a + 2a2, subtract the sum of 3a2 – 5a and –a2 + 2a + 5.

Solution:-

First we have to find out the sum of 4 + 3a and 5 – 4a + 2a2

= 4 + 3a + (5 – 4a + 2a2)

= 4 + 3a + 5 – 4a + 2a2

= 4 + 5 + 3a – 4a + 2a2

= 9 – a + 2a2

= 2a2 – a + 9 … This is the equation 1

To calculate the sum of 3a2 – 5a and –a2 + 2a + 5.

= 3 a2– 5a + (a2– + 2a + 5)

= 3a2 – 5a – a2 + 2a + 5

On rearranging,

= 3 a2– a2 – 5a + 2a + 5

= 2 a**2**– 3a + 5 —— this is the equation no 2

Now on subtraction of equation 2 from 1

= 2 a2– a + 9 – (2a2 – 3a + 5)

= 2a2 – a + 9 – 2 a2+ 3a – 5

= 2 a2– 2a2 – a + 3a + 9 – 5

= 2a + 4

Benefits of Using Important Questions for Class 7 Maths Chapter 10

- **Enhanced Understanding**: Helps in grasping core concepts like terms, coefficients, and operations on algebraic expressions effectively.
- **Exam Readiness**: Familiarizes students with frequently asked questions, improving confidence and performance.
- **Problem-Solving Skills**: Boosts analytical and logical thinking by solving varied question types.
- **Efficient Revision**: Saves time by focusing on high-priority topics and commonly tested problems.
- **Foundation Building**: Prepares students for advanced algebra in higher classes.
- **Error Reduction**: Helps identify and correct common mistakes through practice.