Important Questions for Class 8 Maths Chapter 12, PDF Download, Benefits

SEO Desc: Important Questions for Class 8 Maths Chapter 12 are important for preparation. Candidates must practice these questions to understand the basic concept of this chapter.

Important Questions for Class 8 Maths Chapter 12: Class 8 Maths Chapter 12 focuses on Exponents and Powers, a crucial topic that helps students understand how to express large and small numbers in a more manageable form. Mastering this chapter is essential for building a strong foundation in Mathematics.
Practicing the important questions for class 8 Maths chapter 12 will help students gain a deeper understanding of exponents and powers, which are foundational concepts in mathematics. Regular practice of the important questions will help the candidates to enhance their problem-solving skills.

Important Questions for Class 8 Maths Chapter 12

Chapter 12 of Class 8 Maths focuses on Exponents and Powers, which are essential for simplifying large numbers and understanding mathematical expressions. Important questions in this chapter help students grasp key concepts such as the laws of exponents, negative exponents, and expressing numbers in standard form.
Students should practice questions like converting large numbers into exponential form, simplifying expressions using exponent rules, and evaluating negative exponents. Additionally, understanding how to express small numbers in scientific notation is crucial. Regular practice of these important questions enhances problem-solving skills and prepares students for examinations effectively.

Important Questions for Class 8 Maths Chapter 12 PDF Download

Students can download Important Questions for Class 8 Maths Chapter 12 PDF below. This PDF will help the students to understand the concept of this chapter. Students can download this PDF containing these important questions to practice effectively. This resource helps in mastering the topic and preparing for exams, ensuring a solid grasp of mathematical principles related to exponents.

Important Questions for Class 8 Maths Chapter 12 PDF Download

Important Questions for Class 8 Maths Chapter 12 with Answers

Students can check the Important Questions for Class 8 Maths Chapter 12 with Answers below.

Question 1: The human body has about 100 billion cells. This number can be written in exponential form as

- 10-11
- 1011
- 109
- 10-9

Answer 1: Option (b) is the correct answer.
Explanation 1: 100 billion = 100,000,000,000 = 1011.
Question 2: The distance between earth and sun is 150 million kilometres which can be written in exponential form as_____.
Answer 2: 1.5 × 108 km
Explanation 2: 1 million km = 1,000,000
Therefore, 150 million km = 150,000,000 km = 1.5 × 108 km.
Question 3: Express 27/64 and -27/64 as powers of a rational number.
Answer 3: $27 = 3 \times 3 \times 3 = 3^3$
$-27 = -3 \times -3 \times -3 = (-3)^3$
$64 = 4 \times 4 \times 4 = 4^3$
Now using the identity $(a/b)m = am/bm$
We get
$27/64 = 3^3/4^3 = (3/4)^3$
$\Rightarrow -27/64 = (-3)^3/4^3 = (-3/4)^3$
Question 4: $(49 \times z-3) / (7-3 \times 10 \times z-5) (z \neq 0)$
Answer 4: Using the identity $am \div an = am-n$
$(49 \times z-3) / (7-3 \times 10 \times z-5)$
$= (7^2 \times z-3) / (7-3 \times 10 \times z-5)$
$= (72+3 \times z-3+5) / 10$
$= (75 \times z^2) / 10$
$= (75z^2) / 10$
Question 5: Find the value of x so that
$(5/3)-2 \times (5/3)-14 = (5/3)8x$
Answer 5: Using the identity $am \times an = am+n$
We get
$(5/3)-2 \times (5/3)-14 = (5/3)8x$
$\Rightarrow (5/3)-2-14 = (5/3)8x$
Comparing the power of both sides,
$\Rightarrow -16 = 8x$
$\Rightarrow x = -2$
Question 6: Divide 293 by 10,00,000 and express the result in standard form.
Answer 6: Using the identity $a-m = 1/am$
1000000 = 106
$\Rightarrow 293/106$
$= 293 \times 10-6$
$= 2.93 \times 10-6 \times 10^2$
$= 2.93 \times 10-4$

Question 7: If $5^{3x-1} \div 25 = 125$, find the value of x.

Answer 7: $5^{3x-1} \div 5^2 = 5^3$

$5^{3x-1-2} = 5^3$ [As $a^m \div a^n = a^{m-n}$]

$5^{3x-3} = 5^3$

Comparing the power of both sides,

$3x - 3 = 3$

$\Rightarrow x - 1 = 1$

$\Rightarrow x = 2$

Question 8: Simplify

$(3^{-5} \times 10^{-5} \times 125) / (5^{-7} \times 6^{-5})$

Answer 8: $(3^{-5} \times 10^{-5} \times 125) / (5^{-7} \times 6^{-5})$

$= (3^{-5} \times 10^{-5} \times 5^3) / (5^{-7} \times (2 \times 3)^{-5})$

$= (3^{-5} \times 2^{-5} \times 5^{-5} \times 5^3) / (5^{-7} \times 2^{-5} \times 3^{-5})$

[Since, $(ab)^m = a^m b^m$]

$= (3^{-5} \times 2^{-5} \times 5^{-5+3}) / (5^{-7} \times 2^{-5} \times 3^{-5})$

$= (3^{-5} \times 2^{-5} \times 5^{-2}) / (5^{-7} \times 2^{-5} \times 3^{-5})$

[Since, $a^m \times a^n = a^{m+n}$]

$3^{-5+5} \times 2^{-5+5} \times 5^{-2+7}$

$= 1 \times 1 \times 3125$

$= 3125$

Question 9: Express the number appearing in the following statements in standard form.

(i) Size of bacteria is 0.0000005m.

(ii) Size of a plant cell is 0.00001275m.

Answer 9: (i) Size of bacteria = 0.0000005

$= 5 / 10000000$

$= 5 / 10^7$

$= 5 \times 10^{-7}$ m

(ii) Size of a plant cell = 0.00001275m

$= 1.275 / 100000$

$= 1.275 / 10^5$

$= 1.275 \times 10^{-5}$ m

Question 10: In a stack, there are 5 books each of thickness 20 mm and 5 paper sheets each of thickness 0.016 mm. What is the total thickness of the stack?

Answer 10: If thickness of one book = 20mm

Then thickness of 5 books = $20 \times 5 = 100$ mm

If thickness of one paper = 0.016 mm

Then thickness of 5 papers = $0.016 \times 5 = 0.08$ mm

Therefore, total thickness of a stack = $100 + 0.08 = 100.08$ mm

$= 1.0008 \times 10^2$ mm

Question 11: Find the value of:

(i) $(2^{-1} \times 4^{-1}) \div 2^{-2}$

(ii) $(3^{-1} + 4^{-1} + 5^{-1})^0$

Answer 11:(i) $(2^{-1} \times 4^{-1}) \div 2^{-2}$

$= [(1/2) \times (1/4)] \div (1/4)$

Using the identity a-m = 1/am
 = (1 2 × 1/2²) ÷ 1/4
= 1/2³ ÷ ¼
= (1/8) × 4
= 1/2
(ii) (3-1 + 4-1 + 5-1)0
Using the identity a0 = 1
= 1

Question 12: Sanchay put a 1cm stick of gum through a (1 × 3-2) machine. How long was the stick when it came out?

Answer 12: Size of the machine= 1 × 3-2 = 1/3² = 1/9
Length of the stick put through the machine= 1cm.
Now we can see a negative (-) sign in the power means that the machine is a shrinking machine.
Therefore, 1 × 1/9 = 1/9 cm.
Thus, the length when it comes out of the machine becomes 1/9cm.

Benefits of Solving Important Questions for Class 8 Maths Chapter 12

Students can check the benefits of solving the important questions for class 8 Maths Chapter 12 below.

- **Conceptual Understanding:** Regular practice helps students grasp key concepts, such as the laws of exponents and negative exponents, leading to better comprehension.
- **Improved Problem-Solving Skills:** Tackling a variety of questions enhances critical thinking and problem-solving abilities, essential for higher-level mathematics.
- **Exam Preparation:** Practicing these questions familiarizes students with the exam format and types of questions they may encounter, boosting confidence.
- **Identifying Weak Areas:** Students can pinpoint areas where they struggle, allowing them to focus their efforts on improving those specific topics.
- **Mastery of Formulas:** Repeatedly solving problems reinforces the application of formulas and rules related to exponents, aiding retention.
- **Time Management:** Practicing under timed conditions helps students develop effective time management skills for the actual exam.

FAQs

Q1. What is Chapter 12 about?
Ans. Chapter 12 focuses on Exponents and Powers, teaching students how to express large and small numbers using exponents.
Q2. What topics are covered in the important questions?
Ans. This chapter includes topics such as laws of exponents, negative exponents, and expressing numbers in standard form.
Q3. What types of problems can be expected in the important questions?
Ans. Problems may involve simplifying expressions, evaluating exponents, and converting numbers into exponential form.

Q4. How do these questions help in exam preparation?
Ans. Practicing these questions familiarizes students with the exam format and types of questions they may encounter.