

CLASS VIII – MATHEMATICS – CHAPTER 12
EXPONENTS AND POWERS

Name: _____

Date: _____

01. $(-2)^5 \div (-2)^8$
(a). $-1/8$ (b). $1/8$ (c). $-1/5$ (d). $-1/2$
02. Write the expression using exponents: $61 \times 61 \times 61 \times 61 \times 61$
(a). 61^4 (b). 61^5 (c). 61^3 (d). 61^2
03. Evaluate: 8^2
(a). 512 (b). 8 (c). 64 (d). 30
04. Find the multiplicative inverse of 2^{-4} .
(a). 2^5 (b). 2^3 (c). 2^2 (d). 2^4
05. Simplify and write in exponential form: $(-2)^{-3} \times (-2)^{-4}$
(a). $(-2)^{-7}$ (b). $(2)^{-7}$ (c). $(-2)^7$ (d). $(2)^7$
06. Simplify: $(-3)^2 \times (5/3)^2$
(a). 25 (b). 27 (c). 8 (d). 4
07. Write the expression using exponents: $89 \times 89 \times 89 \times 89$
(a). 89^6 (b). 89^4 (c). 89^5 (d). 89^2
08. Evaluate exponential expression: 2^5 .
(a). 16 (b). 8 (c). 32 (d). 4
09. Find the multiplicative inverse of 10^{-5} .
(a). 10^2 (b). 10^3 (c). 10^4 (d). 10^5
10. Simplify and write in exponential form: $p^3 \times p^{-10}$
(a). p^{-7} (b). p^7 (c). p^{-5} (d). p^8
11. What is the value of $(-1)^{-1}$?
(a). 0 (b). -1 (c). 1 (d). None of these
12. Which of the following is the value of 'm' in $6^m / 6^{-3} = 6^5$?
(a). -3 (b). -2 (c). 3 (d). 2
13. Which of the following is the standard form of 0.00001275?
(a). 1.275×10^{-5} (b). 1.275×10^5 (c). 127.5×10^{-7} (d). 127.5×10^7
14. Which of the following is used as a form of 5.05×10^6 ?
(a). 505000 (b). 505000000 (c). 5050000 (d). 50500000
15. For which of the following is $m = 8$?
(a). $(5^m \times 5^{-3}) / 5^2 = 5^3$ (b). $-(5^m \times 5^{-3}) / 5^3 = 5^2$ (c). $(5^m \times 5^3) / 5^2 = 5^3$ (d). $(5 \times 5^{-2}) / 5^2 = 5^3$
16. 1 micron = $1/1000000$ m. which of the following is its standard form?
(a). 1.1×10^{-5} (b). 1.6×10^{-5} (c). 0.1×10^{-6} (d). 1.0×10^{-6}
17. $[(1/2)^{-1} + (2/3)^2 - (3/4)^0]^{-2}$ is equal to:
(a). $81/484$ (b). $81/169$ (c). $169/81$ (d). $16/81$
18. Which of the following = $(100 - 99^0) \times 100$?
(a). 10000 (b). 100 (c). 9900 (d). 99000
19. What is the reciprocal of $(-3/4)^0$?
(a). -1 (b). 1 (c). $-4/3$ (d). $4/3$

DCA CLASSES

Q01. Fill in the blanks:

- (a). The repeated factor in an exponential expression is called ____.
- (b). When we have to add numbers in standard form, we convert them into numbers with the ____ exponents.
- (c). Very small numbers can be expressed in standard form using _____ exponents.
- (d). $a^0 =$ _____.

Q02. A group of students were given an assignment to collect different types of leaves. The group collected 32 types of leaves. Represent the number of leaves collected in the form of exponential expression with its base being indivisible.

Q03. Evaluate the exponential expression $(-b)^4 \times (-b)^5$, for $b = 4$.

Q04. Find the value of the expression a^2 for $a = 10$.

Q05. Expand the following numbers using exponents:

Q06. 1025.63 (b). 1256.249

Q07. Find m so that $(-3)^{m+1} \times (-3)^5 = (-3)^7$

Q08. The area of a square is given by the formula $A = c^2$. What will be the total area of 5 such similar squares, if the side of a square is 8 ft.?

Q09. Evaluate the exponential expression $(-n)^4 \times (-n)^2$, for $n = 5$.

Q10. Find the value of the expression $3 \times (-m)^2$, for $m = 4$.

Q11. Simplify:

(a). $(-4)^5 \times (-4)^{-10}$

(b). $2^5 \div 2^{-6}$

(c). $\left\{ \left(\frac{1}{3}\right)^{-2} - \left(\frac{1}{2}\right)^{-3} \right\} \div \left(\frac{1}{4}\right)^{-2}$

Q12. What is the value of x in $5^x \div 5^{-3} = 5^5$?

Q13. Simplify $(1 / 3^2)^3$.

Q14. Evaluate: $(5^{-1} * 8^2) / (2^{-3} * 10^{-1})$.

Q15. Find the value of 'm' for which $6^m / 6^{-3} = 6^5$?

Q16. Evaluate $[(1/2)^{-1} - (1/3)^{-1}]^{-1}$.

Q17. Simplify: $(-3)^5 * (5/3)^5$.

Q18. Compare $7 * 10^{-6}$ and $129 * 10^{-7}$.

Q19. The size of a plant cell is 0.00001275 m. express it in standard form.

Q20. If the thickness of a paper sheet is 0.0016 cm, find the thickness of 100 sheets. Express the answer in standard form.