

Grade 8 Exponents and Powers Worksheets

Grade 8 Maths Exponents and Powers Multiple Choice Questions (MCQs)

1. Which one is greater?

- (a) 2^3
- (b) 3^2
- (c) 1^8
- (d) 4^2

2. The value of 2 is:

- (a) 128
- (b) 256
- (c) 512
- (d) None of these

3. The exponent in the expression 3^7 is

- (a) 1
- (b) 7
- (c) 0
- (d) 3

4. The value of 3^0 is

- (a) 0
- (b) 3
- (c) 1
- (d) None of these

5. Multiplicative inverse of $\frac{1}{7}$ is

- (a) 49
- (b) 5
- (c) 7
- (d) -14

6. Fill in the blank: $a^m \div a^n = a$. Where m and n are natural number:

- (a) mn
- (b) $m + n$
- (c) $m - n$
- (d) $m \div n$

7. The value of $\frac{1}{3^2}$ is equal to

- (a) $\frac{1}{9}$
- (b) 1

(c) -6

(d) $\frac{1}{3}$

8. In simplified form $(3^\circ + 4^\circ + 5^\circ)^\circ$ is equals to:

(a) 12

(b) 3

(c) 12

(d) 1

9. 1 micron is equal to

(a) $\frac{1}{100000}$ m

(b) 10^6 m

(c) 10^5 m

(d) 10^7 m

10. The approximate distance of moon from the earth is 384467000 m and in exponential form this distance can be written as

(a) 3.84467×10^8 m

(b) 384467×10^{-8} m

(c) 384467×10^{-9} m

(d) 3.84467×10^{-3} m

11. 7×10^{-5} m is the standard form of which of the following

(a) 0.0007 m

(b) 0.000007 m

(c) 0.0000007 m

(d) 0.00007 m

12. The expression, $(5^2 + 7^2 + 3^2)^0$ is equals to:

(a) 15^6

(b) -6

(c) 1

(d) 83

13. The value of $\left(\frac{1}{6}\right)^2$ is

(a) $\frac{1}{12}$

(b) $\frac{2}{3}$

(c) $\frac{1}{3}$

(d) 2

14. The value of $(6^{-1} - 8^{-1})^{-1}$ is:

(a) $\frac{-1}{12}$

(b) -2

(c) $\frac{1}{24}$

(d) 24

$$\left\{ 6^{-1} + \left(\frac{3}{2} \right)^{-1} \right\}^{-1}$$

15. The value of _____ is:

- (a) $\frac{2}{3}$
- (b) $\frac{5}{6}$
- (c) $\frac{6}{5}$
- (d) None of these

16. The value of $\left[\frac{-1}{2} \right]^{-6}$ is:

- (a) -64
- (b) $\frac{-1}{64}$
- (c) $\frac{1}{64}$
- (d) 64

17. The value of $(3^2 - 2^2) \times \left(\frac{2}{3} \right)^{-3}$ is:

- (a) $\frac{45}{8}$
- (b) $\frac{135}{8}$
- (c) $\frac{8}{135}$
- (d) $\frac{8}{45}$

$$\left(\frac{4}{9} \right)^4 \times \left(\frac{4}{9} \right)^{-7} = \left(\frac{4}{9} \right)^{2x-1}$$

18. If _____, then the value of x is:

- (a) -1
- (b) $\frac{1}{2}$
- (c) $\frac{-1}{2}$
- (d) None of these

19. If $5^{2x+1} \div 25 = 125$, then the value of x is:

- (a) 2
- (b) $\frac{1}{2}$
- (c) $\frac{-1}{2}$
- (d) -2

20. If $(2^{3x-1} + 10) \div 7 = 6$, then the value of x is:

- (a) 2
- (b) 0
- (c) 1
- (d) -2

Class 8 Maths Exponents and Powers Fill In The Blanks

1. The value of $3^4 = \dots\dots\dots$
2. $125^\circ + 5^2 = \dots\dots\dots$
3. Multiplicative inverse of $2^{-5} = \dots\dots\dots$
4. $11^4 \times 11^{-2} = \dots\dots\dots$
5. $\frac{1}{7^{-4}} = \dots\dots\dots$
6. The value of $(-1)^{55}$ is $\dots\dots\dots$
7. The value of $(-1)^{500}$ is $\dots\dots\dots$
8. $(-1)^{\text{even number}} = \dots\dots\dots$
9. In standard form 56700000 is written as $\dots\dots\dots$
10. Usual form of the expression 9×10^5 is given by $\dots\dots\dots$

Class 8 Maths Exponents and Powers Very Short Answer Type Questions

1. Express 729 as a power of 3.
2. Express 2048 as a power 2.
3. Simplify and write in exponential form of $2^2 \times 2^5$.
4. Simplify and write in exponential form of $(-4)^{100} \times (-4)^{20}$
5. Simplify and write in exponential form of $5^2 \times 5^7 \times 5^{12}$
6. Find the number from the following expanded form : $9 \times 10^5 + 2 \times 10^2 + 3 \times 10^1$

Class 8 Maths Exponents and Powers Short Answer Type Questions

1. Simplify:

$$(3)^{-5} \times \left(\frac{1}{3}\right)^2 \times \left(\frac{1}{3}\right)^{-8}$$

2. Simplify:

$$\left[\left(\frac{2}{7}\right)^{-2}\right]^4 \times \left[\left(\frac{7}{2}\right)^4\right]^{-2}$$

3. If $3^x = 243$, then find the value of x.
4. Simplify:

$$\frac{5^{-3} \times 6^{-5} \times 81 \times 4}{3^{-7} \times 10^{-3}}$$

Class 8 Maths Exponents and Powers Long Answer Type Questions

1. What is the multiplicative inverse of $(64)^{2/3} \times \left(\frac{1}{4}\right)^{-3}$
2. Find the value of x if $(-3)^{3x+1} \times (-3)^4 = (-3)^8$
3. Express the height of bundle of 500 papers placed on each other if thickness of one paper is 0.0016 cm.