

Exponent Worksheet – 2

1. Express $\frac{9}{81}$ and $\frac{-9}{81}$ as powers of a rational number.

a) $\left(\frac{3}{9}\right)^2, -\left(\frac{3}{9}\right)^2$

b) $\left(-\frac{3}{9}\right)^2, \left(\frac{3}{9}\right)^2$

c) $\left(\frac{9}{3}\right)^2, -\left(\frac{9}{3}\right)^2$

d) None of These.

2. Express $\left(\left(\frac{-5}{2}\right)^{-2}\right)^{-3}$ as a power of a rational number with negative exponent.

a) $\left(\frac{5}{2}\right)^6$

b) $\left(\frac{2}{5}\right)^{-6}$

c) $\left(\frac{2}{5}\right)^6$

d) $\left(\frac{-2}{5}\right)^{-6}$

3. Find the product of the cube of (-3) and square of (+5).

a) -675

b) -625

c) -235

d) 675

4. Express $3^{-2} \times 3^{-3}$ as a power of 3 positive exponent.

a) $\frac{1}{3^6}$

b) $\frac{1}{3^{-6}}$

c) $\frac{1}{-3^5}$

d) $\frac{1}{3^5}$

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

a) 4

b) 4^{-6}

c) $\frac{1}{4}$

d) $\left(\frac{1}{4}\right)^{-5}$

6. Simplify $\frac{64 \times x^{-3}}{8^{-3} \times 10 \times x^{-5}}$ here $x \neq 0$.

a) $\frac{8^5}{10} x^2$

b) $\frac{8}{10} x^2$

c) $\frac{8^5}{10} x^{-8}$

d) None of above

7. Find the value of n, so that $\left(\frac{5}{7}\right)^{-2} \times \left(\frac{5}{7}\right)^{-14} = \left(\frac{5}{7}\right)^{8n}$.

a) -2

b) -14

c) 10

d) $\frac{3}{2}$

8. Find the value of n^{-3} if $n = (1000)^{1-4} \div (1000)^0$.

a) 1000^{-3}

b) 10^6

c) 1000^9

d) 10^{-9}

9. By what number $(-20)^{-1}$ be divided so that quotient may be equal to $(-20)^{-1}$.

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|--------|-----------------|
| a) -20 | b) 1 |
| c) 0 | d) $(-20)^{-2}$ |

10. Express 32^{-2} as a power with base 2.

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|--------------|-------------|
| a) 2^{-10} | b) 2^{32} |
| c) 2^{-8} | d) 2^{10} |

11. Find the value m, if $5^{2m-1} \div 25 = 125$.

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|------|-------|
| a) 5 | b) 25 |
| c) 2 | d) 3 |

12. Find the multiplicative inverse of $(-6)^{-2} \div (90)^{-1}$.

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| a) $\frac{3}{5}$ | b) $\frac{-5}{3}$ |
| c) $\frac{5}{3}$ | d) None of above |

13. The value of $(-4)^{-2}$ is $\frac{1}{-16}$. Mark True /False.

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|----------|---------|
| a) False | b) True |
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14. For negative integer x and y, then $p^x \times p^y = p^{x+y}$ ($p \neq 0$). Mark True / False.

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| a) False | b) True |
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15. $2^0 \times 5^0 = 10^0$. Mark True/False.

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| a) True | b) False |
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16. The value of $5^7 - 2^7$ is 1^7 . Mark True / False.

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| a) False | b) True |
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17. Multiplicative inverse of $(-3)^5$ is $\frac{1}{-24}$. Mark True / False.

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| a) True | b) False |
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18. The value of $[1^{-3} + 2^{-2} + 3^{-1}] \times 6^2$ is ____.

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|----------|------------------|
| a) 6^4 | b) 6^{-4} |
| c) 57 | d) None of these |

19. By what number should $\left(\frac{-2}{3}\right)^{-3}$ be divided so that the quotient may be $\left(\frac{27}{2}\right)^{-2}$.

- | | |
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| a) $\frac{2^7}{3^9}$ | b) $\frac{3^9}{2^7}$ |
| c) $\frac{-1}{9}$ | d) $\frac{-2}{9}$ |

20. A new-born elephant weight is 15 kg. How many kilograms might a five-year-old elephant weight if its weight increases by the power of 2 in 5year?

a) 225 kg

b) 150kg

c) 30 kg

d) 152kg