Exponent Worksheet – 3

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

a) -2 b) -7

c) 1 d) -1

2. Find the value of $(3^{-1} \times 4^{-1}) \div 2^{-2}$.

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

c) 3 d) $\frac{1}{12}$

3. Find the value of $\left(\frac{1}{4}\right)^{-2} + \left(\frac{1}{5}\right)^{-1} + \left(\frac{1}{3}\right)^{-1}$.

a) 24 b) $\frac{1}{23}$

c) $\frac{1}{24}$ d) None of these

4. Evaluate $(-4)^{-3}$.

a) $\frac{1}{64}$ b) 64

c) $\frac{-1}{64}$ d) None of these

5. Evaluate $\left(\frac{-2}{5}\right)^{-5}$.

a) $\frac{32}{3125}$ b) $-\frac{32}{3125}$

c) 3125 d) $-\frac{3125}{32}$

6. The value of $(7^{-1} - 6^{-1})^{-1} - (5^{-1} - 3^{-1})^{-1}$ is _____.

a) $63\frac{1}{2}$ b) $23\frac{1}{2}$

c) $42\frac{1}{3}$ d) None of these

7. For a non -zero integer n, $\{(n^3)^{-4}\}^5$ is equal to _____.

a) n^{-20} b) n^{-60}

c) n^{-7} d) n^{60}

8. Evaluate $\left\{\left(\frac{-1}{4}\right)^{3}\right\}^{-2}$, we get _____.

a) $\frac{1}{409}$ b) 4024

c) 4096 d) $\frac{1}{402}$

9. Evaluate $\left\{\left(\frac{5}{4}\right)^{-1} - \left(\frac{5}{3}\right)^{-2}\right\}^{-1}$, then get _____.

a) $\frac{11}{25}$ b) 25

c) $3\frac{2}{11}$ d) $2\frac{3}{11}$

10. For any two non-zero rational numbers R and S, $R^5 \div S^5$ is equal to _____.

a) $(R \div S)^0$ b) $(R \div S)^{10}$

c) $(R \div S)^5$ d) None of these

11. By what number should $(-8)^{-1}$ be multiplied, so that the product become $(18)^{-1}$?

a) $\frac{1}{9}$ b) $\frac{-4}{9}$

c) $\frac{-2}{9}$ d) $\frac{4}{9}$

12. Evaluate $\left(\frac{9}{5}\right)^{-2} \times \left(\frac{5}{9}\right)^{-3} \times \left(\frac{5}{9}\right)^{0}$, then get _____.

a) $\frac{9}{5}$ b) 9

c) $\frac{5}{9}$ d) 5

13. Convert 47.36 into standard form.

a) 4.736×10^2 b) 4.736×10

c) 0.4736000 d) 47360

14. Convert 3.2356×10^7 to usual form.

a) 32356000 b) 3.2356000

c) 32.3560000 d) 323560000000

15. Find the value of x for $\left\{\left(\frac{-2}{5}\right)^2\right\}^x \times \left(\frac{-5}{2}\right)^{-1} = \frac{-8}{125}$.

a) -2 b) -5

c) 2 d) $\frac{4}{25}$

16. Simplify $\left(\frac{z^a}{z^b}\right)^{\frac{1}{ab}} \times \left(\frac{z^b}{z^c}\right)^{\frac{1}{bc}} \times \left(\frac{z^c}{z^a}\right)^{\frac{1}{ca}}$.

a) -1 b) $\frac{1}{2}$

c) 2 d) 1

17. Find the multiplicative inverse of $(7^0 + 4^0)(4^0 - 3^0)$.

a) 1 b) 0

c) Does not exist d) -1

18. Evaluate $\frac{p^m}{p^m+p^n} + \frac{1}{p^{m-n}+1}$, we get _____.

a) $\frac{p}{q}$ b) 1

c) -2 d) -1

19. Find the value of m, if $\frac{3^{-m}\times 9^{2m+1}\times 27^{2m}}{9^{3m}} = \frac{1}{81}$.

a) -3 b) 9

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

20. If $\left(\frac{25}{16}\right)^{-4} \times \left(\frac{4}{5}\right)^{3} = \left(\frac{m}{n}\right)^{11}$, find the value of $\left(\frac{m}{n}\right)^{-2}$.

a) $\frac{16}{25}$ b) $\frac{64}{125}$

c) $\frac{4}{5}$ d) $\frac{25}{16}$