Exponents: Worksheet -5

1) If $\frac{4^5+4^5+4^5+4^5}{2^5+2^5} \times \frac{6^5+6^5+6^5+6^5+6^5+6^5}{3^5+3^5+3^5} = 8^n$ then n is [ ]

a) 1 b) 2 c) 3 d) 4

2) If $x^{-1} = 4^{-1} + 5^{-1}$ then x is [ ]

a) $\frac{20}{9}$ b) $\frac{1}{9}$ c) $\frac{9}{20}$ d) $\frac{11}{9}$

3) $x^{\frac{b-c}{bc}} \; x^{\frac{c-a}{ca}} \; x^{\frac{a-b}{ab}}$ [ ]

a) 0 b) 1 c) x^{abc} d) $x^{\frac{1}{abc}}$

4) If $5^{x+2} = 625$ then 5^{x-2} [ ]

a) 5 b) 25 c) 1 d) – 5

5) Calculate the value of $(-0.4)^3$. [ ]

a) 0.640 b) 0.064 c) -0.064 d) -0.640

6) $\sqrt[3]{0.125} + 3 = \ldots\ldots\ldots$ [ ]

a) 8 b) 3.5 c) 2 d) 0.35

7) Given that $512 = 8^3$ and $3.375 = 1.5^3$, find the value of $\sqrt[3]{512} \times \sqrt[3]{3.375}$

a) 12 b) 9.5 c) 8 d) 1.5 [ ]

8) Given that $\sqrt[3]{x} = -6$ find that value of x. [ ]

a) 216 b) 18 c) -18 d) -216

9) The value of $(-1728)^{1/3}$ is ..... [ ]

a) -12 b) -14 c) -11 d) 12

10) Write $\frac{27}{125}$ in index form ..... [ ]

a) $\left(\frac{3}{5}\right)^3$ b) $\left(\frac{5}{3}\right)^3$ c) $\left(\frac{4}{5}\right)^3$ d) None of these

11) The value of $\left(-\frac{5}{11}\right)^3$ is [ ]

a) $\frac{125}{1331}$ b) $-\frac{125}{1331}$ c) $\frac{1331}{125}$ d) None of these

12) $\sqrt[3]{\sqrt{0.000064}}$ =..... [ ]

a) 0.02 b) 0.2 c) 2 d) None of these

13) If $x^y = y^x$ then $\left(\frac{x}{y}\right)^{x/y}$ is equal to [ ]

a) $x^{x/y}$ b) $x^{\frac{x}{y}-1}$ c) $x^{y/x}$ d) $x^{\frac{y}{x}-1}$

14) If $n = 2\sqrt{2}$ then n^4 = [ ]

a) 64 b) 16 c) 4 d) 2

15) If $5^{x+2} = 625$ then 5^{x-2} [ ]

a) 5 b) 25 c) 1 d) – 5