Exponents: Worksheet -2

1) $(1^3 + 2^3 + 3^3 + 4^3)^{-3/2} =$ [ ]

a) 10^{-3} b) 10^{-2} c) 10^{-4} d) 10^{-1}

2) $\frac{\sqrt{x^3} \times \sqrt[3]{x^5} \times \sqrt[30]{x^{77}}}{\sqrt[5]{x^3}}$ [ ]

a) $x^{\frac{76}{15}}$ b) $x^{\frac{78}{15}}$ c) $x^{\frac{79}{15}}$ d) $x^{\frac{77}{15}}$

3) If $800 = 8 \times 10^8 \times x^{-3/2}$ then x = ... [ ]

a) 10^2 b) 10^3 c) 10^4 d) 10^5

4) $\frac{1}{1+x^{a-b}} + \frac{1}{1+x^{b-a}} =$ [ ]

a) $\frac{x^{ab}}{x^a + x^b}$ b) $\frac{x^{ab}}{x^{a-b}}$ c) 1 d) $\frac{x^{ab}}{x^{b-a}}$

5) If $\sqrt[4]{\sqrt[3]{x^2}} = x^k$, then k= [ ]

a) 2/6 b) 6 c) 1/6 d) 7

6) $\left(\frac{64}{125}\right)^{\frac{-2}{3}} + \left(\frac{625}{256}\right)^{\frac{-1}{4}} + 1 =$ [ ]

a) $\frac{269}{80}$ b) $\frac{-269}{80}$ c) $\frac{8}{2}$ d) $\frac{8}{4}$

7) $\sqrt{x^{-1}y}.\sqrt{y^{-1}z}.\sqrt{z^{-1}x} = ..$ [ ]

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

8) Given that $4^{n+1} = 256$. Find n [ ]

a) 2 b) 3 c) 5 d) 63

9) $\frac{9x^6.y^2}{3x^3.y} = ...$ [ ]

a) $3x^2\ y^2$ b) $3^x\ 3^y$ c) $3x^3\ y$ d) $6x^3\ y$

10) Which of the following not equal to y^6 [ ]

a) $\left(y^{\frac{2}{3}}\right)^9$ b) $\left(\sqrt{y^6}\right)^2$ c) $\sqrt[3]{y^{18}}$ d) $\left(y^{\frac{1}{3}}\right)^{\frac{1}{2}}$

11) $8^{\frac{4}{3}} \times 2^{-1}$ [ ]

a) 4 b) 8 c) 16 d) 32

12) $\left(1\frac{7}{9}\right)^{\frac{-1}{2}} = ...$ [ ]

a) $\frac{4}{3}$ b) $\frac{3}{4}$ c) $-\frac{4}{3}$ d) $-\frac{3}{4}$

13) If $m^2 = (27)^{2/3} \times (16)^{-3/2}$ then m [ ]

a) $\frac{9}{34}$ b) $\frac{9}{16}$ c) $\frac{3}{8}$ d) $\frac{3}{4}$

14) $(2d^2\ e^{-1})^3 \times \left(\frac{d^3}{e}\right)^{-2} = ...$ [ ]

a) $8e^{-2}$ b) $8e^{-3}$ c) $8e^{-1}$ d) $8e^{-4}$