

Exponents and Indices 01

1. Find the value of $[5 \left(8^{\frac{1}{3}} + 27^{\frac{1}{3}}\right)^3]^{\frac{1}{4}}$
2. Find the value of $\frac{(6.25)^{\frac{1}{2}} \times (0.0144)^{\frac{1}{2}} + 1}{(0.027)^{\frac{1}{3}} \times (81)^{\frac{1}{4}}}$
3. Find the value of $\frac{(243)^{\frac{n}{2}} \times 3^{3n+1}}{9^n \times 3^{n-1}}$
4. Find the value of $\sqrt[3]{2^4 \sqrt{2^{-5} \sqrt{2^6}}}$
5. Find the value of $(2^{1/4} - 1)(2^{3/4} + 2^{1/2} + 2^{1/4} + 1)$
6. Find the value of $\frac{6^{\frac{2}{3}} \times \sqrt[3]{6^7}}{\sqrt[3]{6^6}}$
7. Find the value of $\sqrt{2 \sqrt{2 \sqrt{2 \sqrt{2 \sqrt{2}}}}}$
8. Find the value of $\frac{6^{12} \times (35)^{28} \times (15)^{16}}{(14)^{12} \times (21)^{11}}$
9. Find the value of $(x^{b+c/c-a})^{1/a-b} \times (x^{c+a/a-b})^{1/b-c} \times (x^{a+b/b-c})^{1/c-a}$
10. Find the value of $\frac{1}{1+x^{(b-a)}+x^{(c-a)}} + \frac{1}{1+x^{(a-b)}+x^{(c-b)}} + \frac{1}{1+x^{(b-c)}+x^{(a-c)}}$
11. If $(\frac{1}{5})^{2y} = 0.008$ then find the value of $(0.25)^y$
12. If $x=y^a$, $y=z^b$, $z=x^c$ then find the value of abc
13. If $x=2+2^{2/3}+2^{1/3}$ then find the value of x^3-6x^2+6x
14. What will come in place of both question marks?
 $\frac{(\quad)^2}{42} = \frac{5}{(\quad)^{\frac{1}{3}}}$
15. What will come in place of both question marks?
 $(32 \times 10^{-5})^{-2} \times 64 \div (2^{16} \times 10^{-4}) = 10^?$

Answer

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|----------------|----------|
| 1. 5 | 10. 1 |
| 2. 1.4444.. | 11. 0.25 |
| 3. 9 | 12. 1 |
| 4. 2 | 13. 2 |
| 5. 1 | 14. 210 |
| 6. 6 | 15. -6 |
| 7. $2^{31/32}$ | |
| 8. 66 | |
| 9. 1 | |