

Power play

- 1) Solve for x : $2^{2x+2} = 4^{2x-1}$
- 2) Find the value of x so that $(4^{-1} + 2^{-1} + 6^{-1} + 8^{-1})^x = 1$
- 3) If $32 \times 16^{p+2} = 2^p$, then find p .
- 4) If $(27)^x = (81)^y$, then find $x:y$
- 5) Solve for x :
i) $2^{x+2} + 2^{x-1} = 9$
ii) $2^{x+1} + 2^{x+2} = 48$
- 6) If $4 \times 5^x = 500$, then find the value of x^x .
- 7) Find the value of $(\sqrt[5]{8})^{5/2} \times (16)^{-3/2}$
- 8) If $20^{-x} = \frac{1}{7}$, then $(20)^{2x} = ?$
- 9) Evaluate: $\left[\left\{ (2^{-1})^{-1} \right\}^{-1} \right]^{-1}$
- 10) Which one is greater? 2^{300} or 3^{200}
- 11) Solve for x :
i) $2^{4x} \cdot 4^{3x-1} = \frac{4^{2x}}{2^{3x}}$
ii) $2^{x-3} = 1$
iii) $3^x = \frac{1}{9}$
- 12) If $25^{(n-1)} + 100 = 5^{2n-1}$, find n .
- 13) Evaluate: $\left\{ \left(\frac{1}{3}\right)^{-3} - \left(\frac{1}{2}\right)^{-3} \right\} \div \left(\frac{1}{4}\right)^{-3}$

14) By what number should we multiply 8^{-1} to obtain a product equal to 10^{-1}

15) Simplify : $\frac{3^5 \times 10^5 \times 25}{5^7 \times 6^5}$

16) Find the value of x when
$$\left(\frac{4}{9}\right)^4 \times \left(\frac{4}{9}\right)^{-7} = \left(\frac{4}{9}\right)^{2x-1}$$

17) Find the reciprocal of $\left(\frac{3}{8}\right)^{-4}$.