

Methods Preparation Course

Course Work

Indices

Evaluate the following.

1. $7^{22} \div 7^{20}$

2. $3^{197} \div 3^{195}$

3. $2^7 \div 2^8$

4. 12^0

5. $(0.5)^0$

6. $15^0 + 7^0 - 1$

7. $(7 + 3)^0$

8. $\frac{2^5 \times 2^5}{2^8}$

9. 1^{12}

10. $(-1)^{12}$

11. -1^{12}

12. $(-1)^{135}$

13. $64^{\frac{1}{2}}$

14. $100^{\frac{1}{2}}$

15. $10000^{\frac{1}{2}}$

19. 2^{-2}

20. 2^{-5}

21. 5^{-3}

22. $\left(\frac{9}{16}\right)^{\frac{1}{2}}$

23. $\left(\frac{7}{5}\right)^{-1}$

24. $\left(\frac{100}{49}\right)^{-0.5}$

25. $\left(2\frac{1}{4}\right)^{\frac{1}{2}}$

26. $27^{\frac{2}{3}}$

27. $(-27)^{\frac{2}{3}}$

Express the following in the form 10^n

28. 1000

29. $(10^5)^3$

30. $\sqrt[2]{10^3}$

28. 0.1

29. 0.0001

30. $\frac{1}{1000}$

Simplify the following

31. $(-3x)^3 \times x^2$

32. $3x^{-2} \times 7x^3$

33. $\frac{(x^3 \times x^{-7})^{\frac{1}{2}}}{x}$

34. $\left(\frac{x^5y}{xy^2}\right)^{-3}$

35. $\frac{(x^2y^3)^2}{x^2y^3}$

36. $\frac{(-3x^3y)^3}{3xy^2}$

37. $\frac{2^{x+2} + 12}{3 \times 2^x + 9}$

38. $\frac{3^{3x+3} - (3^x)^3}{3^{3x}}$

39. $\frac{5^{x+1} + 25}{5^{x-1} + 1}$
