Methods Preparation Course

Course Work

Indices

Evaluate the following.

1. $7^{12} \times 7^{3}$

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

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

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4. 12^{0}

5. $\left(0.5\right)^{0}$

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

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7. $(7+3)^{0}$

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

9. 1^{12}

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

11. -1^{12}

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

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

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

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

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19. 2^{-2}

20. 2^{-5}

21. 5^{-3}

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

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

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

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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 for 10^n

28. 1000

29. $\left(10^5\right)^3$

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

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

35. $\dfrac{\left(x^2 y^3\right)^2}{x^2 y^3}$

36. $\dfrac{\left(-3x^3 y\right)^3}{3x y^2}$

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

38. $\dfrac{3^{3x+3} - \left(3^x\right)^3}{3^{3x}}$

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