

Kerry Ojakian's MTH 28.5 Class
Class Assignment #28

Rewrite using radicals.

1. $x^{\frac{2}{3}}$

2. $x^{\frac{6}{7}}$

3. $y^{\frac{9}{2}}$

4. $x^{\frac{2}{5}}$

5. $y^{\frac{1}{3}}$

6. $u^{\frac{1}{2}}$

7. $x^{\frac{1}{4}}$

8. $y^{\frac{1}{5}}$

9. $y^{-\frac{1}{3}}$

10. $x^{-\frac{1}{2}}$

11. $y^{-\frac{1}{4}}$

12. $u^{-\frac{1}{5}}$

13. $x^{-\frac{7}{3}}$

14. $y^{-\frac{4}{5}}$

15. $u^{-\frac{3}{2}}$

16. $x^{\frac{2}{3}}$

Rewrite using rational exponents.

17. $\sqrt{x^3}$

18. $\sqrt{x^5}$

19. $\sqrt[3]{x^5}$

20. $\sqrt[5]{x^3}$

21. \sqrt{x}

22. $\sqrt[3]{x}$

23. $\sqrt[5]{x}$

24. $\sqrt[7]{x}$

25. $(\sqrt{x})^3$

26. $(\sqrt[3]{x})^5$

27. $(\sqrt[3]{x})^{-5}$

28. $\sqrt[5]{x^{-3}}$

29. $\left(\frac{1}{\sqrt{x}}\right)^3$

30. $\frac{1}{(\sqrt[6]{x})^5}$

31. $\frac{1}{(\sqrt[3]{x})^4}$

32. $\left(\frac{1}{\sqrt[5]{x}}\right)^{-2}$

Simplify (so no radical or exponents are left).

33. $8^{\frac{2}{3}}$

34. $8^{\frac{1}{3}}$

35. $9^{\frac{1}{2}}$

36. $25^{-\frac{1}{2}}$

37. $16^{\frac{1}{4}}$

38. 16^0

39. $16^{\frac{3}{4}}$

40. $16^{-\frac{3}{4}}$

41. $27^{\frac{2}{3}}$

42. $27^{-\frac{4}{3}}$

Multiply and simplify. Write the answer using radicals.

43. $x^{\frac{2}{3}} \cdot x^{\frac{7}{3}}$

44. $x^{\frac{6}{7}} \cdot x^{\frac{2}{7}}$

45. $x^{\frac{3}{7}}$

46. $x^{\frac{2}{5}} \cdot x^{\frac{2}{5}}$

47. $x^{\frac{1}{6}} \cdot x^{\frac{1}{4}}$

48. $x^{\frac{1}{2}} \cdot x^{-\frac{3}{5}}$

49. $x^{-\frac{5}{6}} \cdot x^{-\frac{3}{8}}$

50. $x^{-\frac{1}{5}} \cdot x^{\frac{1}{5}}$

51. $\sqrt{x^3} \cdot \sqrt{x}$

52. $\sqrt[3]{x} \cdot \sqrt[3]{x^5}$

53. $\sqrt[4]{x^3} \cdot \sqrt[6]{x^5}$

54. $\sqrt[5]{x^3} \cdot \sqrt[3]{x^2}$

Multiply and simplify.

55. $\sqrt{x^3} \cdot \sqrt{x}$

56. $\sqrt[3]{x} \cdot \sqrt[3]{x^5}$

57. $\sqrt[4]{x^3} \cdot \sqrt[4]{x^3}$

58. $\sqrt[5]{x^3} \cdot \sqrt[5]{x^6}$

59. $\sqrt{6x^2} \cdot \sqrt{2x}$

60. $\sqrt[3]{3x^4y} \cdot \sqrt[3]{10x^5y^2}$

61. $\sqrt[4]{20x^3y^5} \cdot \sqrt[4]{12x^3y}$

62. $\sqrt[3]{4x^2y} \cdot \sqrt[3]{12x^5y^3}$

63. $\sqrt{6x^3y} \cdot \sqrt{2x^2y}$

64. $\sqrt[3]{25xy^2} \cdot \sqrt[3]{10x^5y}$

65. $\sqrt[4]{9x^2y} \cdot \sqrt[4]{18x^3y^2}$

66. $\sqrt[3]{49x^2y^2} \cdot \sqrt[3]{7xy^3}$