

Alg 2B

Ch 7

p. 389 38-49

Sec 7.4

These are all "power to a power," which means you multiply exponents.

$$38. (x^{2/3})^{-3} = x^{-2} = \frac{1}{x^2} \quad 39. (x^{-4/7})^{7/1} = x^{-4} = \frac{1}{x^4} \quad 40. (3x^{2/3})^{-1} = \frac{1}{3x^{2/3}}$$

$$41. 5(x^{2/3})^{-1} = 5x^{-2/3} = \frac{5}{x^{2/3}} \quad 42. (-27x^{-9})^{1/3} = (-27)^{1/3} x^{-3} = \frac{\sqrt[3]{-27}}{x^3} = \frac{\sqrt[3]{(-3)^3}}{x^3} = \frac{-3}{x^3}$$

$$43. (-32y^{15})^{1/5} = -32^{1/5} y^3 = \sqrt[5]{-32} y^3 = \sqrt[5]{(-2)^5} y^3 = -2y^3 \quad 44. \left(\frac{x^3}{x^{-1}}\right)^{-1/4} = (x^4)^{-1/4} = x^{-1} = \frac{1}{x}$$

$$45. \left(\frac{x^2}{x^{-11}}\right)^{1/3} = (x^{13})^{1/3} = x^{13/3} \quad 46. (x^{1/2} y^{-2/3})^{-6} = x^{-3} y^4 = \frac{y^4}{x^3}$$

$$47. (x^{2/3} y^{-1/6})^{-12} = x^{-8} y^2 = \frac{y^2}{x^8} \quad 48. \left(\frac{x^{1/4}}{y^{-3/4}}\right)^{12} = \left(\frac{x^3}{y^{-9}}\right) = x^3 y^9$$

$$49. \left(\frac{x^{-2/3}}{y^{-1/3}}\right)^{15} = \frac{x^{-10}}{y^{-5}} = \frac{y^5}{x^{10}}$$

Review WS

1. $5^{1/2} y^{1/2}$

8. $\frac{y^2}{x^3}$

13. $\frac{1}{8}$

2. $6^{1/2} y^{3/2}$

9. $\frac{1}{ab^3}$

14. 9

3. $n^{4/5}$

10. $\frac{x^6}{4y}$

15. 125

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

5. $a^{3/2}$

16. 3

6. $\frac{1}{\sqrt[5]{a^8}}$

11. $\frac{3a^2}{b^4}$

17. 6

7. $\frac{1}{\sqrt[4]{y^3}}$

12. 64