Exponent rules with fractions

Name _____ Date _____

1. $x^{\frac{5}{6}} \div x^{\frac{3}{5}} =$ _____
2. $(x^{\frac{3}{5}})^{\frac{5}{6}} =$ _____
3. $x^{\frac{2}{3}} \cdot x^{\frac{1}{3}} =$ _____
4. $x^{\frac{5}{3}} \cdot x^{\frac{1}{2}} =$ _____
5. $x^{\frac{1}{2}} \div x^{\frac{1}{3}} =$ _____
6. $x^{\frac{1}{2}} \cdot x^{\frac{3}{5}} =$ _____
7. $x^{\frac{4}{3}} \div x^{\frac{1}{5}} =$ _____
8. $x^{\frac{5}{6}} \div x^{\frac{1}{4}} =$ _____
9. $(16x^4)^{\frac{1}{2}} =$ _____
10. $(27x^6)^{\frac{1}{3}} =$ _____
11. $x^{\frac{5}{3}} \cdot x^{\frac{2}{3}} =$ _____
12. $x^{\frac{3}{5}} \cdot x^{\frac{1}{6}} =$ _____
13. $(x^{\frac{4}{3}})^{\frac{3}{2}} =$ _____
14. $(x^{\frac{3}{2}})^{\frac{1}{3}} =$ _____
15. $(x^{\frac{4}{3}})^{\frac{3}{5}} =$ _____
16. $x^{\frac{2}{3}} \div x^{\frac{3}{5}} =$ _____
17. $(4x^4)^{\frac{1}{2}} =$ _____
18. $x^{\frac{1}{2}} \div x^{\frac{2}{5}} =$ _____
19. $x^{\frac{5}{2}} \cdot x^{\frac{4}{3}} =$ _____
20. $x^{\frac{4}{3}} \cdot x^{\frac{5}{4}} =$ _____
21. $x^{\frac{5}{4}} \cdot x^{\frac{1}{2}} =$ _____
22. $x^{\frac{4}{5}} \div x^{\frac{1}{3}} =$ _____
23. $(27x^6)^{\frac{1}{3}} =$ _____

Exponent rules with fractions

24. $(4x^2)^{\frac{1}{2}} =$ _____

25. $(x^{\frac{3}{5}})^{\frac{5}{2}} =$ _____

26. $x^{\frac{5}{4}} \div x^{\frac{1}{3}} =$ _____

27. $(125x^9)^{\frac{1}{3}} =$ _____

28. $x^{\frac{1}{2}} \cdot x^{\frac{4}{3}} =$ _____

29. $x^{\frac{1}{3}} \div x^{\frac{1}{6}} =$ _____

30. $x^{\frac{2}{3}} \cdot x^{\frac{3}{5}} =$ _____

31. $(125x^6)^{\frac{1}{3}} =$ _____

32. $(9x^4)^{\frac{1}{2}} =$ _____

33. $x^{\frac{3}{2}} \div x^{\frac{3}{5}} =$ _____

34. $x^{\frac{4}{3}} \div x^{\frac{2}{5}} =$ _____

35. $(x^{\frac{5}{3}})^{\frac{2}{5}} =$ _____

36. $(x^{\frac{3}{5}})^{\frac{2}{3}} =$ _____

37. $x^{\frac{2}{3}} \cdot x^{\frac{4}{3}} =$ _____

38. $(8x^{12})^{\frac{1}{3}} =$ _____

39. $x^{\frac{2}{3}} \div x^{\frac{1}{6}} =$ _____

40. $x^{\frac{5}{2}} \div x^{\frac{2}{3}} =$ _____

41. $(9x^6)^{\frac{1}{2}} =$ _____

42. $(16x^8)^{\frac{1}{2}} =$ _____

43. $(25x^8)^{\frac{1}{2}} =$ _____

44. $x^{\frac{1}{3}} \cdot x^{\frac{5}{3}} =$ _____

45. $x^{\frac{1}{3}} \cdot x^{\frac{5}{2}} =$ _____

46. $x^{\frac{5}{3}} \div x^{\frac{4}{5}} =$ _____