Properties of Rational Exponents

Use properties of exponents to simplify the following exponentials and write with positive exponents.

1. $x^{\frac{1}{2}} \cdot x^{\frac{1}{2}}$
2. $x^{\frac{1}{3}} \cdot x^{\frac{1}{3}}$
3. $x^{\frac{1}{4}} \cdot x^{-\frac{1}{4}}$
4. $x^{\frac{1}{5}} \cdot x^{-\frac{1}{5}}$
5. $x^{\frac{1}{2}} \cdot x^{\frac{1}{3}}$
6. $x^{\frac{1}{4}} \cdot x^{\frac{1}{3}}$
7. $x^{-\frac{1}{2}} \cdot x^{\frac{2}{3}}$
8. $x^{-\frac{3}{4}} \cdot x^{\frac{2}{3}}$
9. $x^{\frac{3}{4}} \cdot x^{\frac{1}{3}}$
10. $x^{\frac{3}{4}} \cdot x^{\frac{2}{5}}$
11. $x^{\frac{2}{5}} \cdot x^{\frac{2}{3}}$
12. $x^{\frac{3}{5}} \cdot x^{\frac{3}{4}}$
13. $x \cdot x^{-\frac{1}{2}}$
14. $x \cdot x^{-\frac{1}{3}}$
15. $x^{\frac{1}{5}} \cdot x$
16. $x^{\frac{1}{3}} \cdot x$
17. $x^{\frac{3}{4}} \cdot x$
18. $x \cdot x^{\frac{2}{3}}$
19. $x^{\frac{1}{4}} \cdot x^{\frac{1}{3}} \cdot x$
20. $x^{\frac{1}{4}} \cdot x^{\frac{1}{3}} \cdot x$
21. $\frac{x}{x^{1/2}}$
22. $\frac{x}{x^{1/3}}$
23. $\frac{x}{x^{-2/3}}$
24. $\frac{x}{x^{-2/5}}$
25. $\frac{x^{3/5}}{x}$
26. $\frac{x^{2/5}}{x}$
27. $\frac{x^{3/2}}{x}$
28. $\frac{x^{3/4}}{x}$
29. $\frac{x^{3/4}}{x^{1/2}}$
30. $\frac{x^{3/5}}{x^{1/2}}$
31. $\frac{x^{-1/4}}{x^{-1/2}}$
32. $\frac{x^{-3/4}}{x^{-1/2}}$

33. $\frac{x^{2/5}}{x^{-1/3}}$

34. $\frac{x^{3/5}}{x^{-1/3}}$

35. $\frac{x^{4/3}}{x^{1/2}}$

36. $\frac{x^{2/5}}{x^{1/2}}$

37. $\left(x^{3/4}\right)^{2}$

38. $\left(x^{3/8}\right)^{2}$

39. $\left(x^{1/3}\right)^{6}$

40. $\left(x^{1/3}\right)^{9}$

41. $\left(x^{3/5}\right)^{-2}$

42. $\left(x^{3/5}\right)^{-4}$

43. $\left(x^{3/5}\right)^{1/2}$

44. $\left(x^{2/5}\right)^{1/3}$

45. $\left(x^{-2/5}\right)^{1/2}$

46. $\left(x^{-4/5}\right)^{1/4}$

47. $\left(x^{3/4}\right)^{1/6}$

48. $\left(x^{5/4}\right)^{1/10}$

49. $\left(x^{3/5}\right)^{-5/6}$

50. $\left(x^{2/5}\right)^{-5/4}$

51. $(x^{4})^{1/6}$

52. $(x^{4})^{1/8}$

53. $(x^{3})^{1/6}$

54. $(x^{2})^{1/6}$

55. $(x^{-2})^{3/2}$

56. $(x^{-4})^{3/4}$

57. $(x^{4})^{3/2}$

58. $(x^{6})^{3/2}$

59. $(x^{5})^{2/3}$

60. $(x^{4})^{2/3}$