

Example 1 Write each expression in radical form, or write each radical in exponential form.

17. $15^{\frac{1}{2}}$

18. $24^{\frac{1}{2}}$

19. $4k^{\frac{1}{2}}$

20. $(12y)^{\frac{1}{2}}$

21. $\sqrt{26}$

22. $\sqrt{44}$

23. $2\sqrt{ab}$

24. $\sqrt{3xyz}$

Examples 2–4 Simplify.

25. $\sqrt[3]{8}$

26. $\sqrt[5]{1024}$

27. $\sqrt[3]{216}$

28. $\sqrt[4]{10,000}$

29. $\sqrt[3]{0.001}$

30. $\sqrt[4]{\frac{16}{81}}$

31. $1331^{\frac{1}{3}}$

32. $64^{\frac{1}{6}}$

33. $3375^{\frac{1}{3}}$

34. $512^{\frac{1}{9}}$

35. $\left(\frac{1}{81}\right)^{\frac{1}{4}}$

36. $\left(\frac{3125}{32}\right)^{\frac{1}{5}}$

37. $8^{\frac{2}{3}}$

38. $625^{\frac{3}{4}}$

39. $729^{\frac{5}{6}}$

40. $256^{\frac{3}{8}}$

41. $125^{\frac{4}{3}}$

42. $49^{\frac{5}{2}}$

43. $\left(\frac{9}{100}\right)^{\frac{3}{2}}$

44. $\left(\frac{8}{125}\right)^{\frac{4}{3}}$