Powers, Roots, and Radicals Practice Name: Key

1. $\left(\frac{1}{4}\right)^{\frac{-3}{2}} =$ 8

2. $(-27)^{\frac{2}{3}} =$ 9

3. $4^{\frac{3}{2}} =$ 8

4. $(-4)^{\frac{-5}{2}} =$ imag

5. $4^{\frac{-5}{2}} =$ $\frac{1}{32}$

6. $\left(-\frac{1}{361}\right)^{\frac{-1}{2}} =$ imag

7. $4^{\frac{-3}{2}} =$ $\frac{1}{8}$

8. $8^{\frac{4}{3}} =$ 16

9. $\left(-\frac{1}{125}\right)^{\frac{4}{3}} =$ $\frac{1}{625}$

10. $(-8)^{\frac{5}{3}} =$ -32

11. $-324^{\frac{1}{2}} =$ -18

12. $289^{\frac{1}{2}} =$ 17

13. $256^{\frac{5}{8}} =$ 32

14. $\left(\frac{1}{2}\right)^{-3} =$ 8

15. $1^{\frac{-3}{4}} =$ 1

16. $343^{\frac{1}{3}} =$ 7

17. $\left(\frac{1}{49}\right)^{\frac{-3}{2}} =$ 343

18. $-400^{\frac{-1}{2}} =$ $\frac{-1}{20}$

19. $64^{\frac{-1}{2}} =$ $\frac{1}{8}$

20. $\left(\frac{1}{49}\right)^{\frac{-1}{2}} =$ 7

21. $16^{\frac{3}{2}} =$ 64

22. $36^{\frac{3}{2}} =$ 216

23. $-64^{\frac{5}{6}} =$ -32

24. $(-64)^{\frac{1}{3}} =$ -4

25. $\left(\frac{1}{196}\right)^{\frac{1}{2}} =$ $\frac{1}{14}$

26. $625^{\frac{1}{4}} =$ 5

27. $1000^{\frac{2}{3}} =$ 100

28. $\left(\frac{1}{27}\right)^{\frac{4}{3}} =$ $\frac{1}{81}$

29. $\left(\frac{1}{16}\right)^{\frac{-3}{2}} =$ 64

30. $\left(\frac{1}{100,000}\right)^{\frac{3}{5}} =$ $\frac{1}{1000}$

31. $-625^{\frac{1}{4}} =$ -5

32. $36^{\frac{-3}{2}} =$ $\frac{1}{216}$

33. $256^{\frac{-1}{2}} =$ $\frac{1}{16}$

34. $8^{\frac{-1}{3}} =$ $\frac{1}{2}$

35. $144^{\frac{-1}{2}} =$ $\frac{1}{12}$

36. $16^{\frac{5}{4}} =$ 32

37. $4^{\frac{5}{2}} =$ 32

38. $9^{\frac{-3}{2}} =$ $\frac{1}{27}$

39. $-\frac{1}{225}^{\frac{-1}{2}} =$ -15

40. $\left(\frac{1}{256}\right)^{\frac{-1}{4}} =$ 4

41. $\left(\frac{1}{169}\right)^{\frac{-1}{2}} =$ 13

42. $64^{\frac{4}{3}} =$ 256

43. $25^{\frac{3}{2}} =$ 125