

Inverse Operations

ESR 1

Instructions: Exponents and Roots are inverse operations. An exponent can undo a root and vice versa. For each of these pairs of operations, use the first equation to fill in the missing number in the second equation.

1 $2^5 = 32$

$\sqrt[5]{32} = 2$

2 $\sqrt[7]{128} = 2$

$2^7 = \square$

3 $3^4 = 81$

$\sqrt[4]{81} = \square$

4 $\sqrt[3]{343} = 7$

$7^{\square} = 343$

5 $\sqrt{225} = 15$

$\square^2 = 225$

6 $5^3 = 125$

$\sqrt{125} = 5$

7 $\sqrt[5]{243} = 3$

$3^5 = \square$

8 $7^2 = 49$

$\sqrt{\square} = 7$

9 $\sqrt[9]{512} = 2$

$2^{\square} = 512$

10 $4^4 = 256$

$\sqrt[4]{256} = \square$

11 $11^2 = 121$

$\sqrt{121} = 11$

12 $\sqrt{169} = 13$

$\square^2 = 169$

“Perfect Squares”

ESR 2

Instructions: Use a multiplication table to help find the answers to these square roots. (Hint: for a few of the problems that are not on the multiplication table, you will also need to use what you know about powers of 10)

1 $\sqrt{4} = \underline{2}$

2 $\sqrt{100} = \underline{\quad}$

3 $\sqrt{36} = \underline{\quad}$

4 $\sqrt{9} = \underline{\quad}$

5 $\sqrt{400} = \underline{\quad}$

6 $\sqrt{1} = \underline{\quad}$

7 $\sqrt{25} = \underline{\quad}$

8 $\sqrt{49} = \underline{\quad}$

9 $\sqrt{81} = \underline{\quad}$

10 $\sqrt{16} = \underline{\quad}$

11 $\sqrt{64} = \underline{\quad}$

12 $\sqrt{900} = \underline{\quad}$

13 $\sqrt{121} = \underline{\quad}$

14 $\sqrt{144} = \underline{\quad}$

15 $\sqrt{0} = \underline{\quad}$

16 $\sqrt{10,000} = \underline{\quad}$

Finding Roots with a Calculator

ESR 3

Instructions: Use the root function on a calculator to find these roots. Round your answers to 3 decimal places.

1 $\sqrt{2} = \underline{1.414}$

2 $\sqrt{3} = \underline{\hspace{2cm}}$

3 $\sqrt[3]{3} = \underline{\hspace{2cm}}$

4 $\sqrt[3]{7} = \underline{\hspace{2cm}}$

5 $\sqrt{12} = \underline{\hspace{2cm}}$

6 $\sqrt[4]{9} = \underline{\hspace{2cm}}$

7 $\sqrt{21} = \underline{\hspace{2cm}}$

8 $\sqrt{50} = \underline{\hspace{2cm}}$

9 $\sqrt[5]{50} = \underline{\hspace{2cm}}$

10 $\sqrt[3]{100} = \underline{\hspace{2cm}}$