Perfect Squares and Square Roots

Perfect squares and square roots go together like addition and subtraction or multiplication and division. Learning perfect squares can help with all kinds of math problems, including square roots.

Finding the answer to the question: What is the square root of 25?
Or $\sqrt{25} = ?$ is like asking what times what equals 25 or what times itself equals 25. Since we know 5 times 5 equals 25, the answer is 5. Or $\sqrt{25} = 5$.

Exponents can be an easier way to show multiplication. 5 times 5 can be written as 5×5 or $5 \cdot 5$ or 5^2. The little two in the air is the exponent. It means to multiply 5 two times. It does **not** mean five times two.

Notice that a dot can be used instead of the $\times$ in the multiplication problem to avoid confusion with letters being used as variables in algebra.

Examples:
a. $4 \times 4 = 4 \cdot 4 = 4^2 = 16$ b. $\sqrt{144} = 12$ because 12 times 12 equals 144

Practice:

1.	$3 \times 3 = 3 \cdot 3 = 3^2 =$	**2.**	$\sqrt{4} =$
3.	$\sqrt{16} =$	**4.**	$5 \times 5 = 5 \cdot 5 = 5^2 =$
5.	$2 \times 2 = 2 \cdot 2 = 2^2 =$	**6.**	$\sqrt{1} =$
7.	$\sqrt{9} =$	**8.**	$4 \times 4 = 4 \cdot 4 = 4^2 =$
9.	$7 \times 7 = 7 \cdot 7 = 7^2 =$	**10.**	$\sqrt{36} =$
11.	$\sqrt{81} =$	**12.**	$10 \times 10 = 10 \cdot 10 = 10^2 =$
13.	$8 \times 8 = 8 \cdot 8 = 8^2 =$	**14.**	$\sqrt{49} =$
15.	$\sqrt{121} =$	**16.**	$1 \times 1 = 1 \cdot 1 = 1^2 =$
17.	$6 \times 6 = 6 \cdot 6 = 6^2 =$	**18.**	$\sqrt{25} =$
19.	$\sqrt{64} =$	**20.**	$12 \times 12 = 12 \cdot 12 = 12^2 =$
21.	$11 \times 11 = 11 \cdot 11 = 11^2 =$	**22.**	$\sqrt{100} =$
23.	$\sqrt{144} =$	**24.**	$9 \times 9 = 9 \cdot 9 = 9^2 =$