Perfect square

Definition
A number whose principal square root is a whole number.

Characteristics
If you draw a rectangle with the principal root of these numbers, it will be a square.

Examples
4 is a perfect square because the principal square root of 4 is 2 (a whole number.) $\sqrt{4} = 2$

81 is a perfect square because the principal square root of 81 is 9 (a whole number.) $\sqrt{81} = 9$

Non-example with Reasoning:
8 is not a perfect square, because the square root of 8 is approximately 2.8 which is not a whole number. $\sqrt{8} \approx 2.8$

Square Root

Definition
The square root of any number (A) is whatever factor (s) can be multiplied by itself and have that number (A) as the product.

$A = s \cdot s = s^2$
therefore
$\sqrt{A} = s$

Characteristics
Each number has both a positive root (called the principal square root) and a negative root. This is because both of the following equations are true:

$2 \cdot 2 = 4$ and $-2 \cdot -2 = 4$

Examples
The symbol for finding the square root of a number is $\sqrt{\ }$.

$\sqrt{36}$ = -6 and 6(*principal root*)

$\sqrt{25}$ = -5 and 5(*principal root*)

Non-example with Reasoning:
$\sqrt{27} \neq 3$

3 is the cubed root of 27 because $3 \cdot 3 \cdot 3 = 27$.

$\sqrt{27} \sim 5.19$