

Introduction to Squares and Square Roots

- The square of a number is the number multiplied by itself.

Read as "five squared" $\rightarrow 5^2 = 5 \times 5 = 25$ Therefore, 25 is the square of 5.

Read as "eleven squared" $\rightarrow 11^2 = 11 \times 11 = 121$ Therefore, 121 is the square of 11.

- The symbol for square root is $\sqrt{\quad}$ and is read as "the square root of ..."

Ex. $\sqrt{25}$ is read as "the square root of 25"

- The square root of a value is the number that when multiplied by itself equals the value in question

Ex. $\sqrt{36} = 6$ because $6 \times 6 = 36$

$\sqrt{144} = 12$ because $12 \times 12 = 144$

$\sqrt{58} \approx 7.6$ because $7.6 \times 7.6 \approx 58$

* \approx means approximately

- Squaring a number and finding a square root of a number are opposite operations

$$5^2 = 25 \quad \sqrt{25} = 5$$

- Any value that has a square root that is a whole # (i.e. no decimal) is called a perfect square

$\sqrt{225} = 15 \leftarrow 225$ is a perfect square

$\sqrt{81} = 9 \leftarrow 81$ is a perfect square

$\sqrt{150} \approx 12.25 \leftarrow 150$ is NOT a perfect square

- For Grade 8 you are expected to memorize the first 15 perfect squares

<u>Square Root</u>	<u>Root Squared</u>	<u>Perfect Square</u>
1	1^2	1
2	2^2	4
3	3^2	9
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		