# Mathematics concept maps

The diagrams below show the most important topics and concepts in high school mathematics. Concepts are shown in bubbles with rounded corners. Topics are shown in rectangular boxes.

You can annotate the concept maps with your current knowledge of each concept to keep track of your progress. Add a single dot (•) next to all concepts you've heard of, two dots (••) next to concepts you think you know, and three dots (•••) next to concepts you've used in exercises and problems. If you collect some dots every week, you'll be able to move through the material in no time at all.

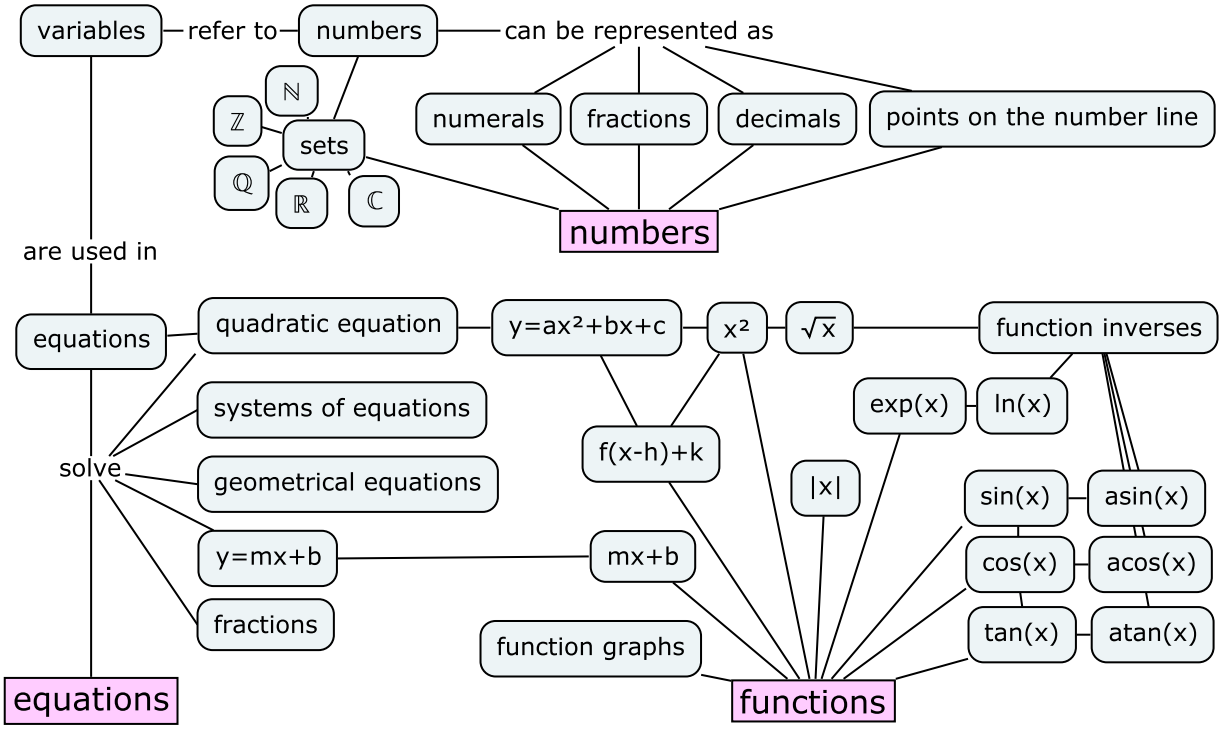


**Figure 1:** The fundamental concepts in mathematics are numbers, equations, and functions.

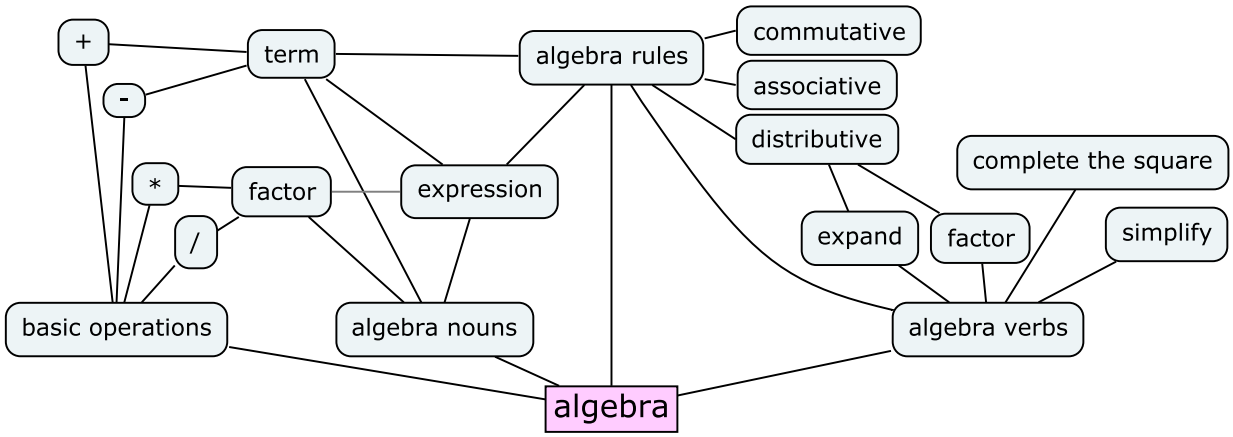


**Figure 2:** The rules of algebra codify what we're allowed to do with math expressions.

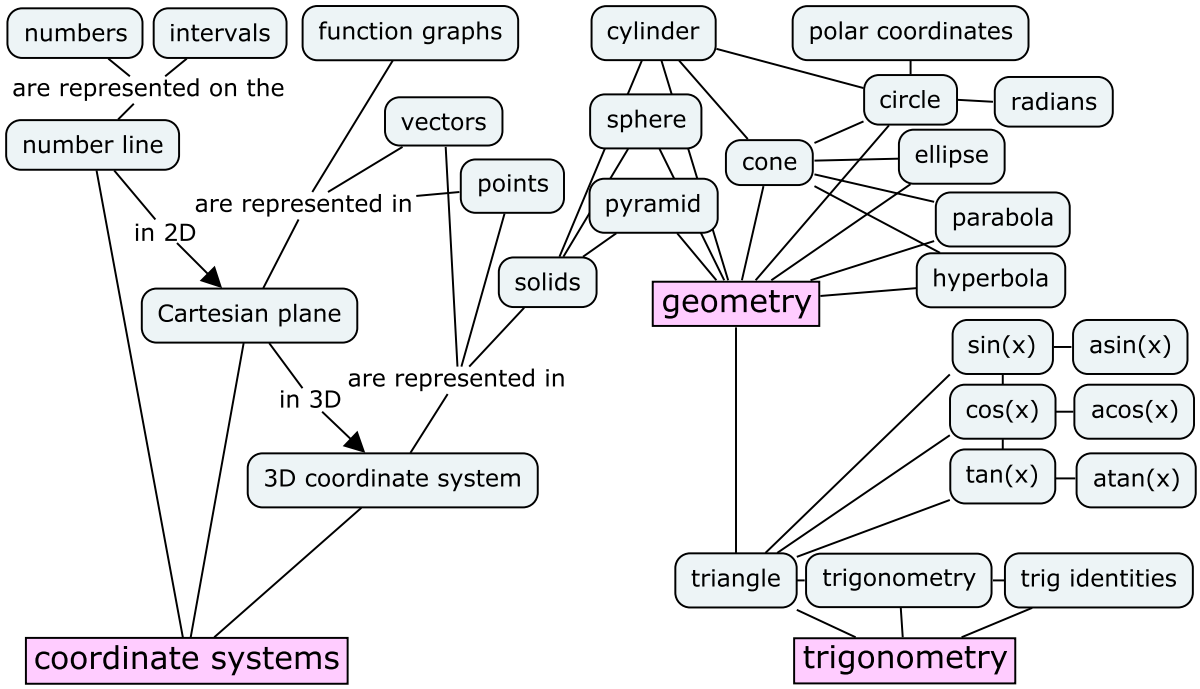


**Figure 3:** Visual thinking plays a very important role in mathematics. The Cartesian plane is a two-dimensional coordinate system used to represent points, vectors, and function graphs. The fundamental geometric shapes are triangles, pyramids, cones, circles, ellipses, parabolas, and hyperbolas. The study of triangles and their properties is called trigonometry.

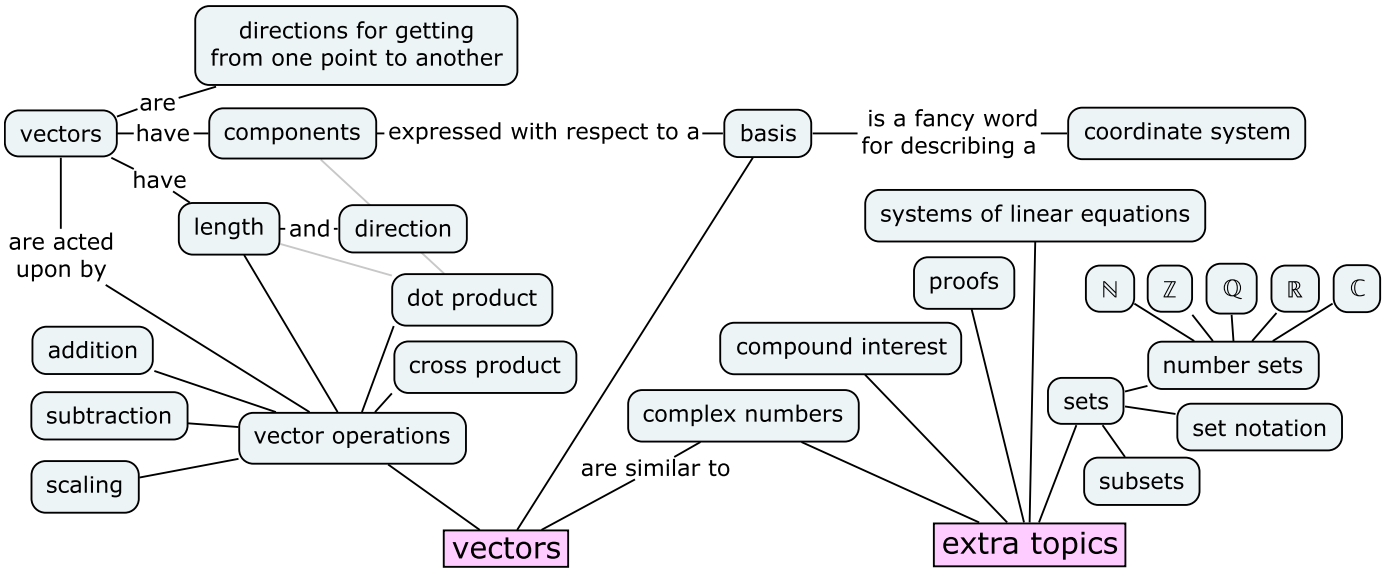


**Figure 4:** You can use you algebra and geometry skills to learn about vectors and vector operations. Some other useful and topics in math include applications to calculating interest on loans, solving systems of equations, and understanding formal math arguments like proofs.

To learn more about these topics, check out the **No Bullshit Guide to Mathematics** by Ivan Savov (Fifth edition, Minireference Publishing, v5.4 2020, ISBN 099200103X) available in print from lulu `bit.ly/noBSmath-sc` or amazon `amazon.com/dp/099200103X`. Also available in digital format via gumroad `gum.co/noBSmath` or kindle `amazon.com/dp/B08LTM7T7N`.

Visit `noBSmath.com` for more information about the book and other learning resources.