

High School Mathematics Skills Estimation Guide

This guide is designed to help parents of high school students (Grades 9–12) assess their child's math abilities

How to Use This Guide

1. Review each topic and ask your child to solve a few examples or explain the concept.
2. Observe whether they understand the reasoning, not just the answer.
3. Take notes on what seems comfortable versus what causes hesitation.
4. Use this information to guide future practice or communicate with educators.

Grade 9

- Solves linear equations and inequalities
- Understands ratios, proportions, and percentages
- Works with square roots and exponents
- Plots and interprets data on coordinate planes
- Applies formulas for area and volume
- Interprets graphs and tables

Grade 10

- Solves quadratic equations by factoring and using the quadratic formula
- Understands functions and their graphs
- Works with systems of equations
- Applies Pythagorean theorem and trigonometry in right triangles
- Uses algebra to solve real-world word problems
- Analyzes basic probability situations

Grade 11

- Works with polynomial, rational, and radical expressions
- Understands advanced functions: exponential and logarithmic
- Applies trigonometric identities and solves triangle problems
- Analyzes data using statistical measures (standard deviation, distributions)
- Interprets and transforms function graphs

Grade 12

- Uses derivatives for basic calculus concepts (intro level)
- Understands limits and continuity (if applicable)
- Applies advanced algebra to model real-world scenarios
- Interprets and analyzes complex data sets and probabilistic models
- Demonstrates strong number sense and fluency in manipulating expressions

Tips for Supporting High School Math at Home

- Encourage your child to explain their thinking process aloud.
- Use online tools and graphing calculators to explore abstract concepts.
- Connect math problems to real-life applications (finances, science, technology).
- Revisit earlier concepts if gaps appear.
- Focus on consistency and confidence more than speed.

Conclusion

Supporting your teenager's success in mathematics means staying engaged and aware. This guide is your star