

**Mansfield Independent School District
Mathematics Assurances
Mathematical Models with Applications**

Assurances

By the end of the Mathematical Models with Applications, students will:

- Use the graphing calculator as a tool for solving problems.
- Solve equations and inequalities and systems of equations and inequalities.
- Graph linear functions and have an understanding of slope (rate of change) and y-intercept.
- Solve quadratic functions.
- Transform quadratic parent functions.
- Use special right triangles to solve problems.
- Utilize sine, cosine, and tangent to solve right triangle problems.
- Calculate volume, surface area, and shaded areas.
- Compare and contrast theoretical and empirical probabilities.
- Calculate simple and compound probabilities.
- Analyze the validity of central tendencies of a data set.