

**MPT contains questions** in Math for life which is equivalent to MTG100. Below are the topics and resources that you might use.

(Math for Life Topics - equivalent to MTG100)

<ul style="list-style-type: none"> <li>• Basic operations with whole numbers including calculation of perimeter and area, with applications related to Population, planets, give away, ice-skating rink, roller coaster, etc.</li> <li>• Rounding, estimation, order, solving one-step equations, exponential notation, order of operations and calculating average, with applications related to Purchasing car options, plan vacations, remaining distance, auto mileage, cross word puzzle, etc.</li> </ul>
<ul style="list-style-type: none"> <li>• Fractions: multiplying, simplifying, and division, with applications to Partitioning, ratios, car fuel gauge, screw rotation, appropriate medication dose, etc.</li> <li>• Fractions: mixed numerals, addition and subtraction, and order of operations, with applications related to Planets or bits, construction, phases of the moon, pizza ingredients, climbing mountains, green house, bake sale, flooring design, sidewalks, weight of water, etc.</li> </ul>
<ul style="list-style-type: none"> <li>• Decimal notation: performing various operations in order and converting from/to fraction notation, with applications related to Gallon and liter, text messaging, money, cost estimation.</li> </ul>
<ul style="list-style-type: none"> <li>• Ratios, rates, unit prices, proportions, and applications related to geometry and more: HD TV screen, silicon in earth's crust, Pisa tower, a van mph, population density, speed of nerve impulse signals, employment growth rate, construction plan and scale modes, health and fitness, calculating heights from shadows, etc.</li> <li>• Percent notation: conversion from/to fractions and proportions. Solving equations in applications related to Sales tax, commission, discount and sale price, simple and compound interest, and credit cards.</li> </ul>
<ul style="list-style-type: none"> <li>• American and metric measures: distance, mass, capacity, time, temperature, and area (and various conversions) with applications related to: Bridges, athletic track, highways, towers, Millau Viaduct express way, skyscrapers, medical dosage, agriculture yield, actual length of a day, changing the boiling point, etc.</li> </ul>
<ul style="list-style-type: none"> <li>• Perimeter, area, circles, and volume with applications to Mosquito nets, kites, fields and lawns, sidewalks, circular and square cakes, carpeting cost, luggage, bowling ball, tanks and pipelines, golf-ball packaging.</li> </ul>
<ul style="list-style-type: none"> <li>• Real numbers: performing various operations with applications to Mississippi water level, surface temperature on Mars, elevations in Asia, stock price changes, mine rescue.</li> </ul>

**Textbooks and Resources:**

- Bittinger, Marvin. (2019). Basic College Mathematics. 13th ed., New York, NY: Pearson.
- Gay, Martin. (2015). Basic college mathematics with early Integers. New York, NY: Pearson
- <https://www.khanacademy.org/>
- <https://www.coolmath.com/>