

MBMT Algebra Round — Abel

March 8, 2026

Full Name _____

Student ID Number _____

**DO NOT BEGIN UNTIL YOU ARE
INSTRUCTED TO DO SO.**

This round consists of **8** questions. You will have **30** minutes to complete the round. Each question is *not* worth the same number of points. Questions answered correctly by fewer competitors will be weighted more heavily. Please write your answers in a reasonably simplified form.

- _____ 1. Soy milk is sold in packs of 8 cans. If Bill wants 60 cans of soy milk, what is the least number of packs he has to buy?
- _____ 2. What is the product of all x that satisfy $(x - 1)^2 = 25$?
- _____ 3. Bill has a collection of 24 math, physics, and chemistry books. If $1/2$ of Bill's books are about math, and $1/3$ of Bill's books are about physics, how many of Bill's books are about chemistry?
- _____ 4. Thomas buys 2 burgers and 3 fries from McWei's for \$29 dollars. Sam then buys 3 burgers and 2 fries from McWei's for \$31 dollars. How much would buying one burger and one fry cost, in dollars?
- _____ 5. Peterfun is going on a journey around the world. If he spends 30 days boating at 150 miles/day and 50 days boating at 102 miles/day, what is his average speed over his entire journey?
- _____ 6. Mr. Schwartz has a square-shaped bar of chocolate, broken into 45×45 congruent squares. Every day, he chooses one of the top, left, bottom, or right sides of the bar, and then eats the entire edge of squares corresponding to that side of the bar. If he has 455 congruent squares of chocolate remaining, how many days has it been since he started eating the chocolate bar?
- _____ 7. How many ordered triplets of integers (x, y, z) satisfy $x + y = 12$ and $xz = y + z$?
- _____ 8. Let $P(x)$ be a quadratic polynomial with leading coefficient 1 such that the solutions to $P(x)^2 = 16$ are 1, 3, 5, and 7. Find $P(0)$.