Head to Head
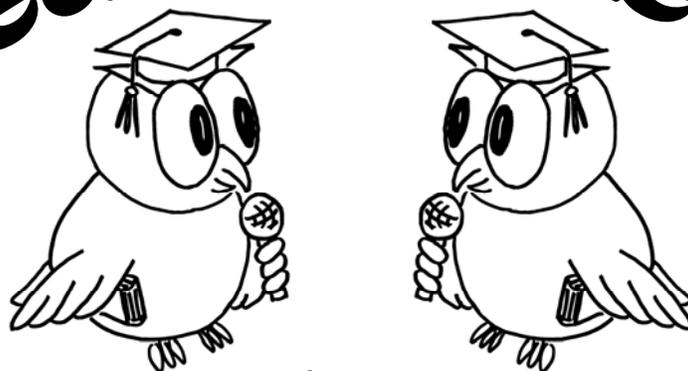
Let's Go!

Coach's Guide

Math

Personal Note to Coaches:

Thank you for your time and energy.   Both are scarce, and you are very much appreciated. The *Head to Head* program is a chance for every young person to shine in his or her area of interest. It opens up whole new arenas for competition and success for ALL kids. Whether it's on the field, on the court, on the stage, on the easel, or in the classroom, it is vitally important to encourage the pursuit of excellence...but you already knew that, didn't you? I welcome feedback on any aspect of this program.
feedback@HeadtoHeadTesting.com

Thanks Again!

Event Coach:

- Coaches may coach more than one event and/or more than one act per performance event.
- Familiarize yourself with the Coach's Guide for your event(s).
- Emphasize courtesy and good sportsmanship.
- Schedule practice sessions.
- Make copies of the Student Study Guide, Practice Test, and/or Judge's Evaluation form.
- Insure that team members have appropriate study materials, music, manuscripts, etc.
- Insure that team members understand all rules pertaining to their event.
- Work with your coordinator to establish which team members compete at which meet and in what order the performers will compete.
- Vocal performance event coaches - if your student is using a recorded instrumental track:
    ◊ one copy of the CD must be given to your coordinator before each meet
    ◊ be aware of the file format used on the CD (compatibility varies)
    ◊ clearly label the CD with performer's name, song title, and track number
- Performance event coaches - be aware of performance minimum and maximum time limits.
- Performance event coaches - your act may notify the timekeeper if they do NOT want time signs to be displayed.
- Performance event coaches - be aware of how many and what type of microphones are available at the host school. (Ask your coordinator.)
- Performance event coaches - you are responsible for props. Bring your own or communicate your needs with your host school BEFORE the meet.

Rules for the Written Testing Events:
- 1-6 students per team for each event
- Top score for each team - for each event - applies to team point total
- Students may not talk or ask questions during the test.
- If a student needs a new pencil, he or she should raise a hand, and a new pencil will be provided.
- Students MAY use scratch paper. (no calculators)
- If a student is caught cheating, his/her school will receive 0 points for that test regardless of which student is that school's high scorer.

Math Topics Covered

Encourage your team members to study these areas:

- Algebra
- Geometry
- Fractions/Decimals/Percentages/Ratios
- Exponents
- Probability
- Compounding Interest
- Mean/Median/Mode
- Measurement
- Mathematical Terms & Definitions
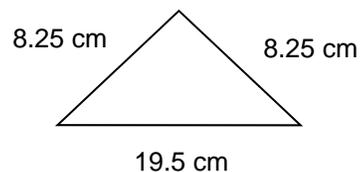- Miscellaneous Middle School Math Topics

Sample Questions:

What is the value of 3 + (-5) - (-6) + 2

A. 3
B. 4
C. 5
D. 6

Find the perimeter of the triangle?

A. 160.875 centimeters
B. 36 centimeters
C. 68.0625 centimeters
D. 55.5 centimeters

8.25 cm   8.25 cm

19.5 cm

Solve the equation for x: 4 x (3 + x) = 72

A. 15
B. 6
C. 12
D. 18

The next page is a study guide that can be copied for all of your team members.

Good Luck!

Math Study Guide

Congratulations for taking the math challenge!

You should brush up your skills on these topics:

- **Algebra**
    - Understand variables and how to find their value
    - Translate word problems into algebraic equations
    - Simplify equations (addition, subtraction, multiplication and division)

- **Geometry**
    - Identify angles, shapes & solids
    - Be able to determine area, circumference, volume, etc.

- **Fractions/Decimals/Percentages/Ratios**
    - Understand what they are and how they relate to each other
    - Be able to simplify and compare values of each
    - Know how to perform addition, subtraction, multiplication and
        division with them
    - Calculate percentage increase and percentage decrease

- **Exponents**
    - Understand what they are and how they relate to multiplication

- **Probability**
    - Be able to calculate how likely a particular outcome is

- **Compounding Interest**
    - Know how to calculate simple interest and determine rate, time,
        principal and interest

- **Mean/Median/Mode**
    - Understand what each of these terms mean and how to determine each
    - Be able to interpret stem-and-leaf plots

- **Measurement**
    - Be able to work with metric and customary units

- **Mathematical Terms & Definitions**
    - Math has a vocabulary of its own. Know what the terms mean.

- **Miscellaneous Middle School Math Topics**
    - There could be a few more questions on topics not mentioned above!