PREPARATION FOR THE LOCAL CONTEST

Contacting Your Local High School

Making first contact with a teacher in the math department is often the hardest thing to do when trying to get a Trig-Star Program going. Here are some tips:

- Do you know any teacher, guidance counselor or administrator at your local high school that could introduce you to a math teacher?
- Do any of your children, grandchildren, nieces, nephews, etc., attend a nearby high school where you would be willing to visit to present the Trig-Star program/test?
- Are there any of your neighbors or friends at church or social groups, teachers or school employees, or your fellow employees who may be able to steer you in the right direction to contact the trigonometry teacher or math department head?
- Find out when a teacher is available and make your contact at that time, don't wait for them to call you.

Presentation Suggestions

One of the most important parts of the Trig-Star Contest is your presentation of career information. The objective is to discuss Surveying and Mapping careers with the students. Tell them briefly, what it is, why it's a good career, why we like it and how trigonometry is used in our business as a practical application of math.

Use the resources on the Trig-Star website; requests brochures, posters, give-a-ways, etc. Order your free posters (you just pay shipping) at www.getkidsintosurvey,com.

There are many Trig-Star presentation formats that can be followed. The variations depend not only on your personal speaking style, but also on high school factors, such as the size of the group you will be talking to, the amount of time allowed for your presentation and the room configuration that you will be presenting in. For example, small groups allow for more demonstration of equipment and explanation of Survey Plats or Maps. Questions are more common in small groups and personal connections are easier to make.

On the other hand, larger groups will allow you to reach more students and you may feel that you have made more efficient use of your time. The more visual aids the better the presentation.

NCEES has developed a Speaker's Kit. To download the kit visit https://ncees.org/education/ncees-speakers-link-and-speakers-kit/

Examples of Plats and Maps are always interesting to students, especially if it shows an area they are familiar with. An aerial photo, which includes their school in part of the photo, would be a good tool. Setting up a total station and allowing students to look through the telescope and see a measurement being made can be very interesting.

Many Trig-Star sponsors find that the local teachers is one of the best resources for helping the students understand the test. Encourage the teacher to present the practice problem provided as a warm up to the test.

If you can engage the students in doing some sample calculations they feel more involved. For example, set up the total station in the classroom, a prism in the back of the room and another prism out the door in the hallway, if possible. Then measure the two distances and the interior angle between the lines. Sketch the measurements on the board and ask the students to solve for the unknown distance through the wall. If they seem unsure on how to approach the problem help them determine that they must use the law of cosines and fill out the equation on the board, then all students can perform the calculations on their calculators and come up with an answer. Some sponsors plan on two visits to the school. Once to show equipment and the second to give the test.

It is also important to discuss what they should prepare for on the Trig-Star Exam, such as working with length in decimals of feet usually to the hundredths and angles in degrees, minutes and seconds, (DMS). Some schools cover DMS and the students seem to have a good understanding of this already. If they don't it is important to let them know this will be on the exam and they should prepare for it. Also, a brief discussion of rounding should be covered.

Often students will round off intermediate solutions and use these rounded values in additional calculations while working toward the final answer. This results in the accumulation of round off error and the final answer will most likely be close, but not to the precision needed to be counted as a correct answer.

Also, students will need to use a calculator capable of trig functions, however the use of calculators with coordinate geometry and/or triangle solution programs will not be allowed. If students have any of these programs loaded in their calculators they should be deprogrammed before the exam.