

- iv. The time in seconds, to the precision of the device used, to solve the cryptogram will be recorded by the Event Supervisor or designee.
- v. If a team gets the timed question wrong, they may attempt to answer the question repeatedly without penalty. The timing bonus will be calculated from the start of the event until the question is successfully answered by the team **with two or fewer errors**, or until 10 minutes has elapsed. After 10 minutes, the timed question can still be answered but the timing bonus is zero.

4. **SCORING:**

- a. The high score wins. Final Score = Exam Score + Timing Bonus.
- b. Based on the difficulty **of the question, correct answers for each question will earn** a clearly indicated number of points.
 - i. The general point distribution by question type is:
 - (1) An “easy question” = 100-150 pts
 - (2) A “medium question” = 200-300 pts
 - (3) A “hard question” = 350-500 pts
 - (4) A “very hard question” = 550-700 pts
 - ii. For questions such as cryptograms, with answers composed of letters, the final points will be determined based on the number of errors found in the decoded plaintext
 - (1) Two or fewer errors will **be scored as correct and** result in full credit.
 - (2) Each additional error results in a penalty of 100 points.
 - (3) The penalty will not exceed the value of the question. For example, a 400-point question with 5 errors **earns** 100 points whereas the same 400-point question with 7 errors would **earn** 0 points, not -100 points.
 - iii. The scores for each question will be added **together** to determine the exam score.
- c. A Timing Bonus can be earned based on the number of seconds it takes a team to correctly decode the first question. The timing bonus is equal to $4 \times (600 - \text{number of seconds})$. For example, 6 minutes = $4 \times (600 - 360) = 960$ points.
- d. Scoring example: Team A earns 3600 points on the exam and solved the timed question in 435 seconds.

Exam Score	=	3600 points
+Timing Bonus $4(600-435)$	=	660 points
Final Score		4260 points
- e. Tiebreakers: For teams that are tied, select questions predetermined by the Event Supervisor, will be used to break the tie using the following criteria in this order: score, degree of correctness and number attempted.

Recommended Resources: The Science Olympiad Store (store.soinc.org) carries the Codebusters Video Download and the Problem Solving/Technology CD; other resources are on the event page at soinc.org.