

**2007 Middle School Math Contest
Construction Project**

SCHOOL _____ Team A, B, C

Student Names: _____

GOAL: Construct a rectangular prism (“box”) out of card stock with the largest sum of volume and total surface area. To measure accurately and to calculate the volume and surface area correctly.

MATERIALS PROVIDED: 1 – 8 ½ by 11 inch card stock
2 – 4 by 6 inch index cards
2 – 3 by 5 inch index cards
2 – small paper rulers

MATERIALS TO CONSTRUCT (brought by the team):
Scissors and tape, calculator for the coach’s use only

RESTRICTIONS: Failure to follow these restrictions will disqualify the team.

No other materials may be used.
Measurements must be to the **nearest** centimeter.
Calculations for volume and total surface area must be shown.

JUDGING: Proctors will verify the measurements. An Excel program will calculate the volume, total surface area, and sum. Projects will be rank ordered from the smallest to the largest for this category.

Use the reverse side of the paper to show your measurements and all your calculations.

Work Space for Construction Project

Formulas: $V = lwh$ $SA = 2lw + 2lh + 2wh$

Length = _____ cm Width = _____ cm Height = _____ cm

Proctor's Initials _____ (verifying measurements)

Volume = _____ cm^3 Total Surface Area = _____ cm^2

Sum = Volume + Total Surface Area = _____