

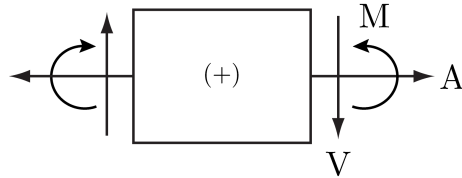
CE 325 Exam #1

February 24, 2026

NCSU Honor Code: I have neither given nor received any unauthorized help on this exam.

Name: _____

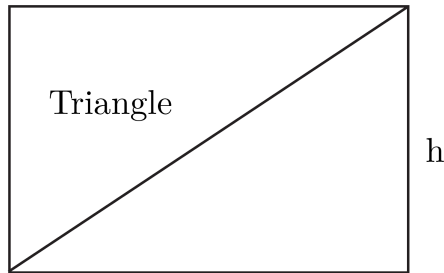
Signature: _____



Positive forces/moments

$$A_U = \frac{1}{2}bh$$

$$\bar{x}_U = \frac{1}{3}b$$

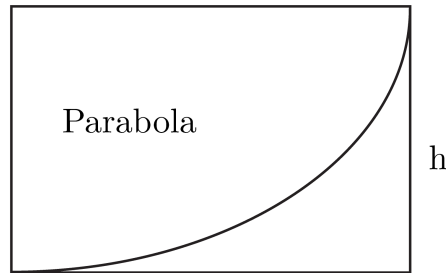


$$A_L = \frac{1}{2}bh$$

$$\bar{x}_L = \frac{2}{3}b$$

$$A_U = \frac{2}{3}bh$$

$$\bar{x}_U = \frac{3}{8}b$$



$$A_L = \frac{1}{3}bh$$

$$\bar{x}_L = \frac{3}{4}b$$

2x2 matrix inversion $[A] = \begin{bmatrix} a_{11} & a_{12} \\ a_{21} & a_{22} \end{bmatrix}$ $[A]^{-1} = \frac{1}{a_{11}a_{22} - a_{21}a_{12}} \begin{bmatrix} a_{22} & -a_{12} \\ -a_{21} & a_{11} \end{bmatrix}$

You must show all work to get credit for a problem