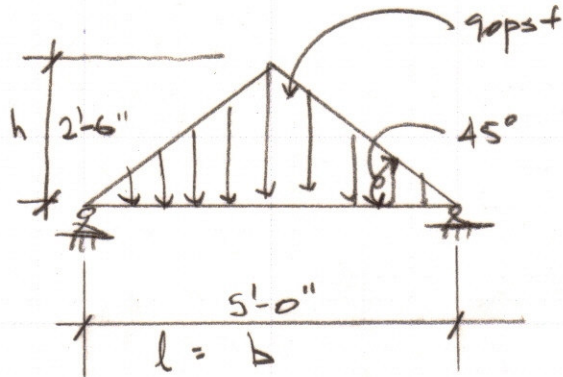


FOR THE STR. LINTEL SHOWN,  
WHAT IS THE MAXIMUM BENDING  
MOMENT INDUCED BY THE MASONRY  
WALL ALONE, IF THE UNIT WL  
OF THE WALL IS 90psf?



STEP 1 - IDENTIFY BEAM MOMENT  
EQUATION BASED ON LOADING DIAGRAM

∴ IDENTIFY THE LOADING DIAGRAM AS "SIMPLE BEAM - LOAD INCREASING  
UNIFORMLY TO CENTER"

$$M_{max} = wl/6$$

\* FROM NOMENCLATURE SHEET NOTICE THAT "W" IS DEFINED  
AS "TOTAL LOAD ON BEAM, KIPS"

↑ FOR OUR PROBLEM WE WILL USE  
POUNDS. SINCE THE FINAL ANSWER  
IS IN THE UNITS OF #-FG

STEP 2 - SOLVE FOR "W"

FIND THE WEIGHT OF THE MASONRY "W" ENCLOSED BY THE  
TRIANGULAR SHAPE

$$W = (bh/2)(90psf) = \left(\frac{(5')(2.5')}{2}\right)(90psf) = \underline{\underline{562.5\#}} = W$$

↑ AREA OF TRIANGLE

STEP 3 - NOW CALCULATE  $M_{max}$

$$M_{max} = wl/6 = (562.5\#)(5')/6 = \underline{\underline{468.75\#-FG}}$$

ANSWER: 469 #-FG

Project:	NCARB #16
Address:	WORKED SOLUTION
Job No.:	
Date:	7/14/07
Drawn By:	H/AM

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Seal

Sketch No.