

Assignment

Name :-

Naqeeb Ullah

ID :-

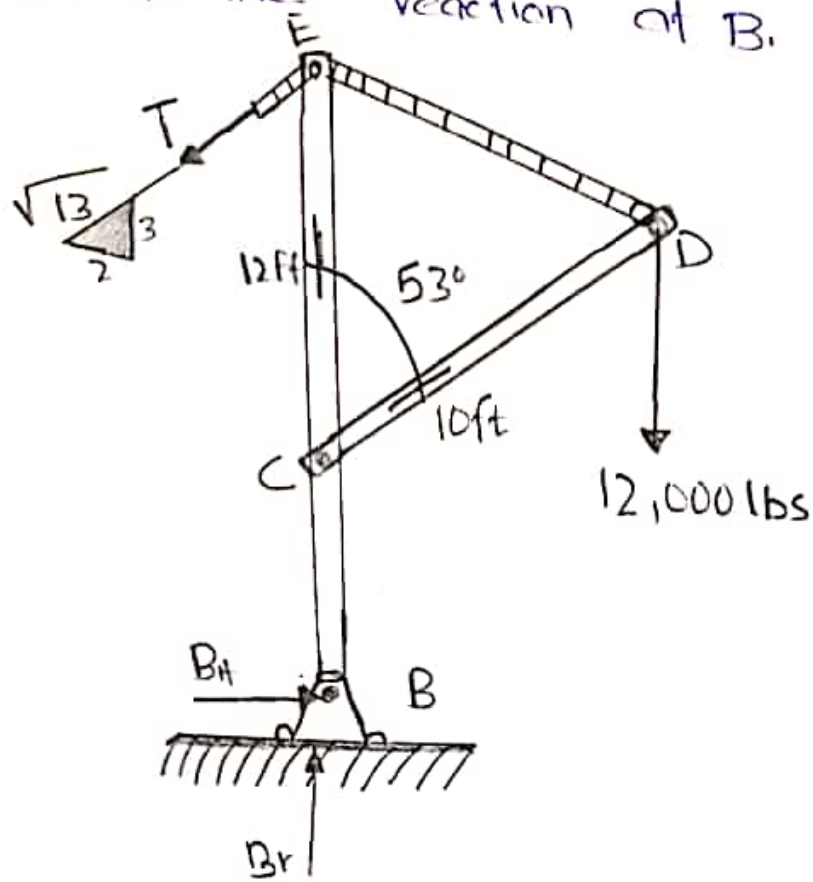
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Assignment :-

Theory of Structures.

Problem 007-cb

In the structure shown in Fig. CB-007 (FR), member BCF, and CD are assumed to be solid rigid members. Members AD and DE are cables, for this structure determine the reaction at B.



$$\sum M_B = 0$$

$$24 \left(\frac{2}{\sqrt{13}} T \right) = 12000 (10 \sin 53^\circ)$$

$$T = 7198.80 \text{ lb}$$

$$\sum F_H = 0$$

$$B_H = \frac{2}{\sqrt{13}} T$$

$$B_H = \frac{2}{\sqrt{13}} (7198.81)$$

$$B_H = 3793.18 \text{ lb Answer}$$

$$\sum F_V = 0$$

$$B_V = \frac{3}{\sqrt{13}} T + 12000$$

$$B_V = 17989.77 \text{ lb. Answer.}$$