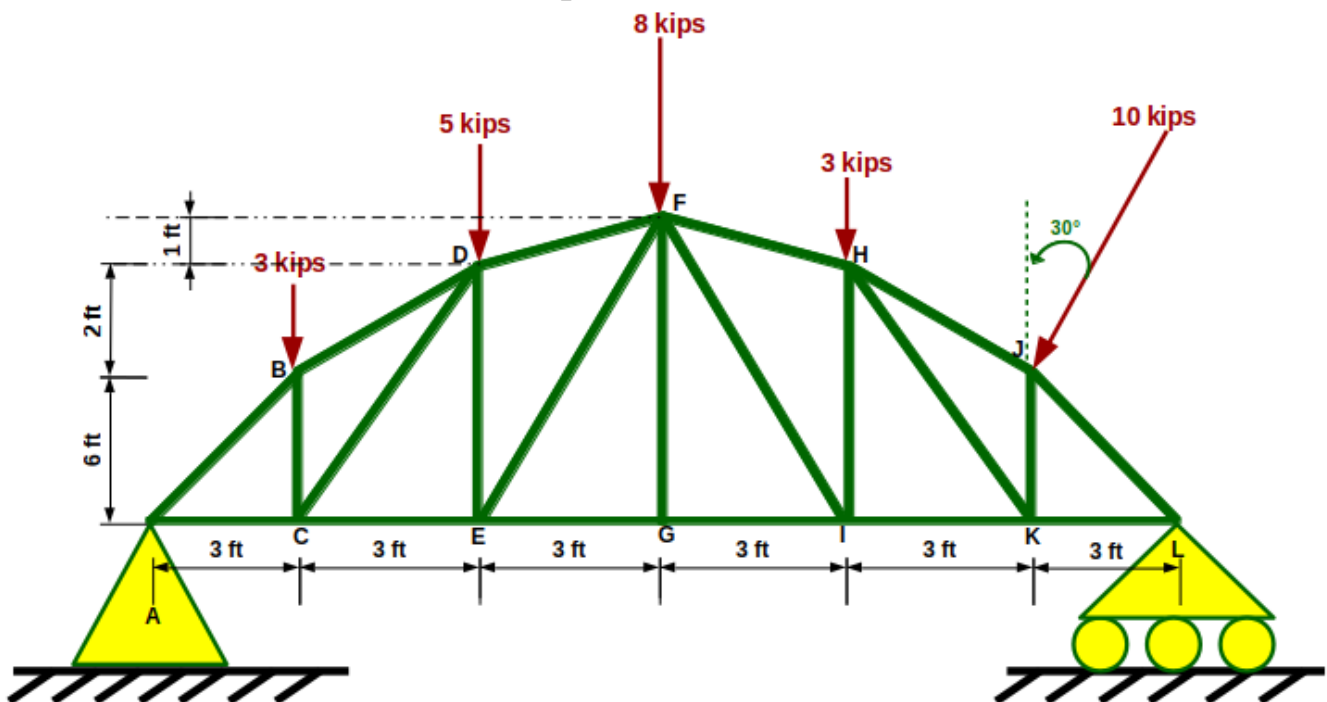


Date: 15th January 2020

The horizontal bowstring truss shown below is supported by a pin at A and a roller at L. Compute the forces in each member and indicate whether the members are in tension (T) or compression (C).



Copyright © 2019
DTY Tutoring, Inc.
All rights reserved.

Answers (refer to solutions for detail)

$F_{AB} = 15.6$ kips (C)
 $F_{AC} = 1.97$ kips (T)
 $F_{BC} = 6.30$ kips (T)
 $F_{BD} = 8.38$ kips (C)
 $F_{BF} = 1.62$ kips (T)
 $F_{KH} = 3.04$ kips (T)
 $F_{HF} = 11.4$ kips (C)

$F_{LJ} = 15.3$ kips (C)
 $F_{KL} = 6.86$ kips (T)
 $F_{KJ} = 2.85$ kips (C)
 $F_{KI} = 5.79$ kips (T)
 $F_{EC} = 4.33$ kips (T)
 $F_{EF} = 2.99$ kips (C)
 $F_{CD} = 6.72$ kips (C)

$F_{ED} = 2.83$ kips (T)
 $F_{HI} = 1.54$ kips (C)
 $F_{EG} = 5.28$ kips (T)
 $F_{DF} = 9.84$ kips (C)
 $F_{JH} = 14.3$ kips (C)
 $F_{IG} = 5.28$ kips (T)
 $F_{GF} = 0$ (zero force member)