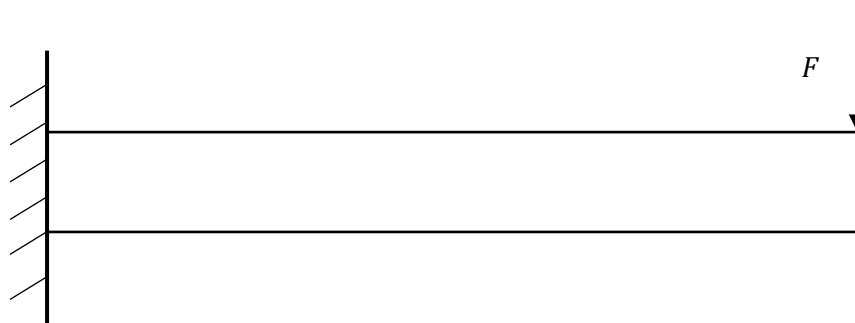


The yield strength of a cantilever beam shown in the figure is lognormally distributed. The mean and standard deviation of the yield strength are 300 MPa and 30 MPa, respectively. If the maximum stress of the beam is 290 MPa, what is the probability that a yield failure will occur?



Solution

$$\Pr(Y < 290) = 0.3859$$