Q1:
(a) Determine the tension design strength (LRFD) of gusset plate and double-angles connection as shown in Figure. Use A36 Steel.

(b) The applied tension loads are 50 kips dead load (D) and 100 kips live load (L). Determine whether the connection is adequate considering tension only.
Q2: Determine the design block shear strength of the gusset plate. Given:
Gusset plate thickness = 3/8”; A36 steel
Bolts dia= 1/2”.

![Diagram of bolts and gusset plate dimensions]