2–6. The roof deck of the single story building is subjected to a dead plus live load of 125 lb/ft². If the purlins are spaced 4 ft and the bents are spaced 25 ft apart, determine the distributed loading that acts along the purlin DF, and the loadings that act on the bent at A, B, C, D, and E.

\[ \frac{L_2}{L_1} = \frac{25}{4} = 6.25 > 2 \]

One-way slab.

Tributary load along DF = \((125 \text{ lb/ft}^2)(4 \text{ ft}) = 500 \text{ lb/ft} \)

This load is also transferred to the bent from the other side of AE. Half the tributary loading acts at A and E.

At A and E:
\[ F = 6250 \text{ lb} = 6.25 \text{ k} \]  

At B, C, D:
\[ F = 2(6250) = 12500 \text{ lb} = 12.5 \text{ k} \]