ENDS 231: Practice Quiz 2

Clearly show your work and answer.

The truss supports loads 450 lb. at B, 320 lb. at C, and 180 lb. at D as shown.

a) Determine the reactions at the pin at E.

b) Determine the tension in short cable AF.

c) If the force in member AE is 471.2 lb in tension, solve for the remaining member forces at joint E using the method of joints.

d) [some short question from the text material]

Answers

a) \( E_x = +586.9 \text{ lb (→)}, \ E_y = +75.8 \text{ lb (↑)} \)

b) \( T_{AF} = 1158.7 \text{ lb} \)

c) \( ED = 151.6 \text{ lb (T)}, \ E_B = -919.0 \text{ lb (C)} \)

additional member forces for practice:
\( AB = 1058.5 \text{ lb (T)}, \ BC = 320 \text{ lb (T)}, \ BD = 97.0 \text{ lb (T)}, \ DC = 0 \text{ lb}. \)