21-S-5-2-AG-074

A very skinny person has a mass of M and is standing at the very edge of the beam, so you can assume their centre of mass is at D. There are pins at points A, B, and C. What elements would you have to draw to make a free-body diagram of the beam?

a) The beam AD
b) The wall
c) The beam BC
d) The weight of the person
e) The force on the beam BC
f) The components of the force on the beam BC
g) The reaction force at the wall
h) The components of the reaction force at the wall
i) The distance between the points of interest

ANSWER:

You would need to draw:

a) **The beam AD**
b) The wall
c) The beam BC
d) **The weight of the person**
e) The force on the beam BC
f) **The components of the force on the beam BC**
g) The reaction force at the wall
h) **The components of the reaction force at the wall**
i) **The distance between the points of interest**