15-1

Select the lightest wide-flange steel section for a simple beam of 20-ft span that will carry a uniform load of 4 kips/ft. Use A36 steel and assume that the beam is supported laterally for its entire length.

Solution

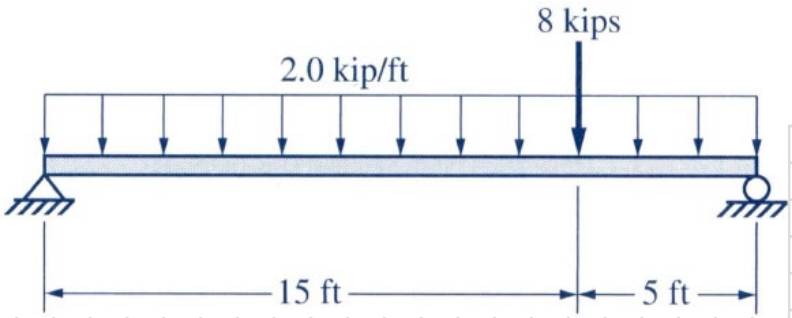
15-3

Select the lightest wide-flange steel girder for a simple span of 15 ft subjected to a concentrated load of 10 kips at the midspan. Use A36 steel and assume that the beam is supported laterally for its entire length.

Solution.

15-5

A simply supported beam of 20-ft span is subjected to a uniformly distributed load and a concentrated load, as shown in Fig. P15-5. Select the lightest W shape using A36 steel and assume that the beam is supported laterally for its entire length.

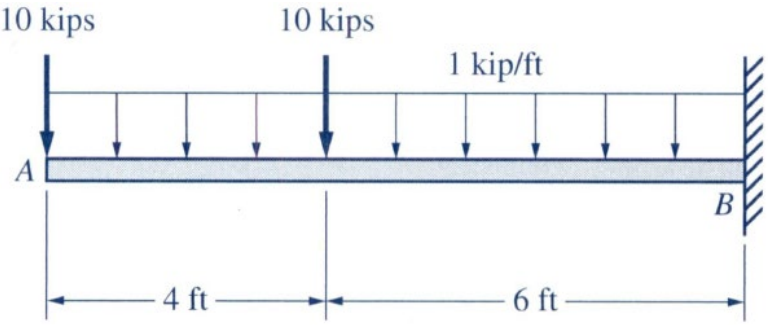


Solution.

15-6

For each of the beams subjected to the loadings shown, the weight of the beam is already included in the uniform load. Select the lightest wide-flange steel shape using A36 steel. Assume that the beam is supported laterally for its entire length.

Solution.



15-9

For each of the beams subjected to the loadings shown, the weight of the beam is already included in the uniform load. Select the lightest wide-flange steel shape using A36 steel. Assume that the beam is supported laterally for its entire length.

Solution.