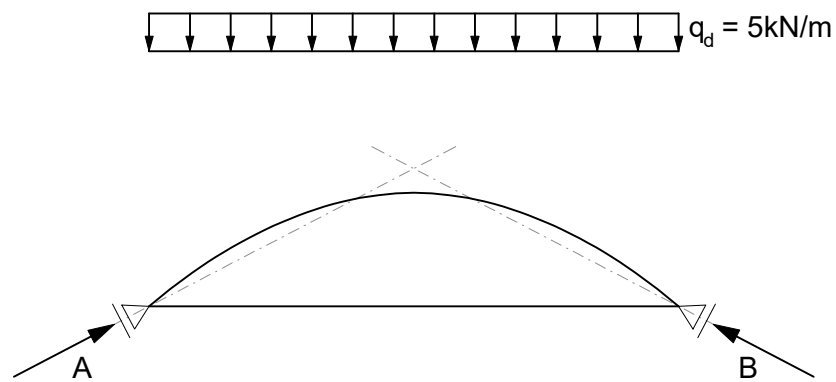


Task 1 Arch-Cable Structure with Different Support Conditions

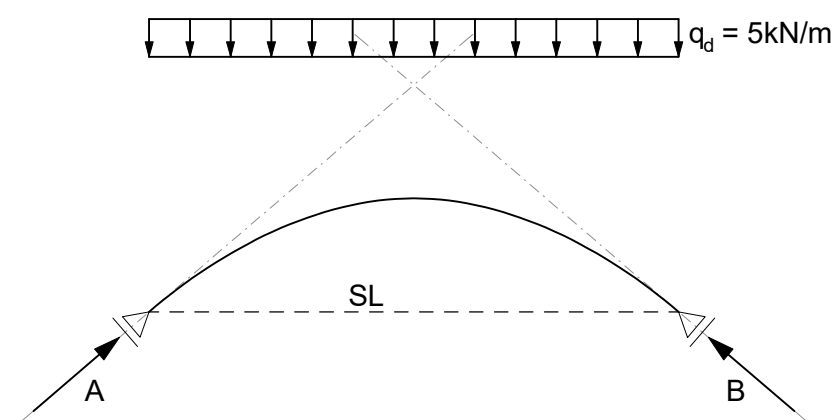
Draw the force diagrams for the cases given. Determine the magnitude of A and B and indicate tension forces with red and compression forces with blue.



Form Diagram 1:100

Free Body Diagram

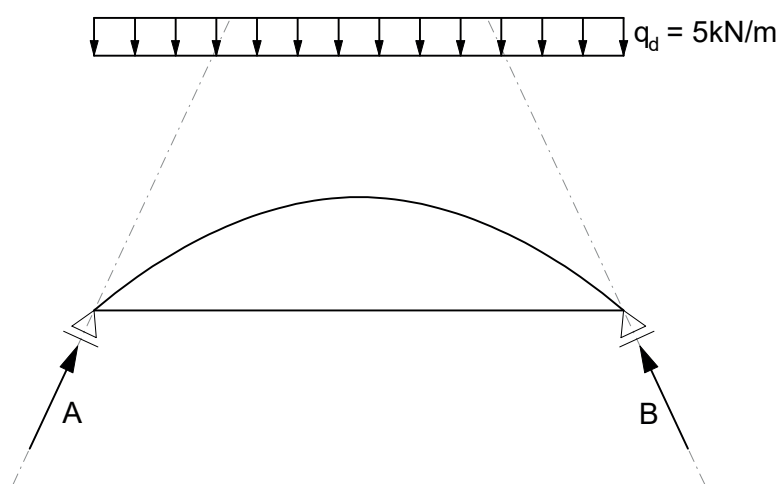
Force Diagram $1cm \triangleq 5kN$



Form Diagram 1:100

Free Body Diagram

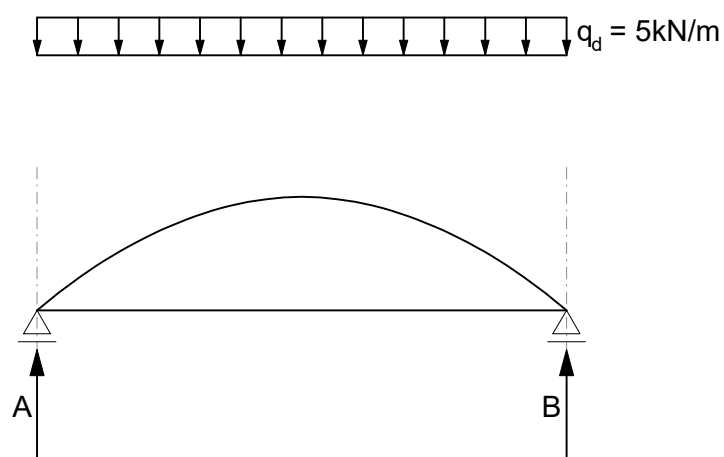
Force Diagram $1cm \triangleq 5kN$



Form Diagram 1:100

Free Body Diagram

Force Diagram $1cm \triangleq 5kN$



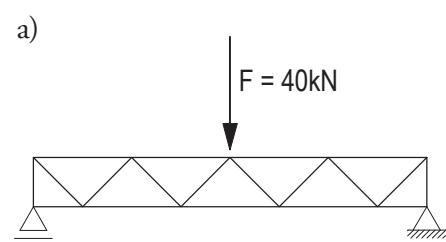
Form Diagram 1:100

Free Body Diagram

Force Diagram 1cm \triangleq 5kN

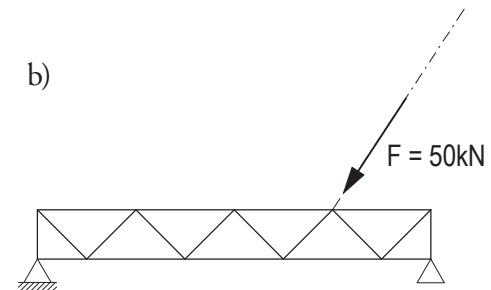
Task 2 Reaction Forces

Draw the support reactions in the force and form diagram and determine their magnitude using graphic statics.



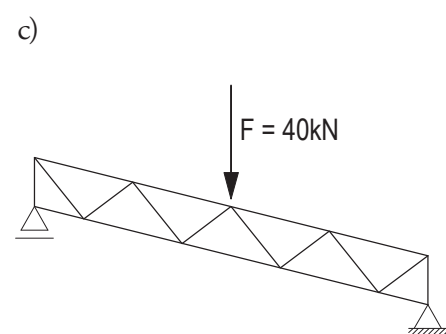
form diagram 1:100

force diagram 1cm \triangleq 10kN



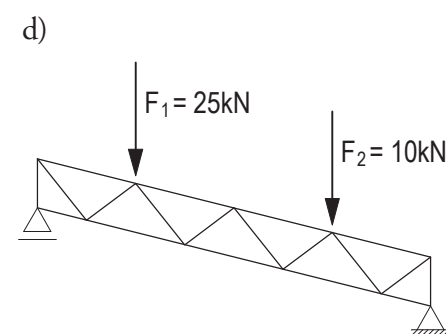
form diagram 1:100

force diagram 1cm \triangleq 10kN



form diagram 1:100

force diagram 1cm \triangleq 10kN

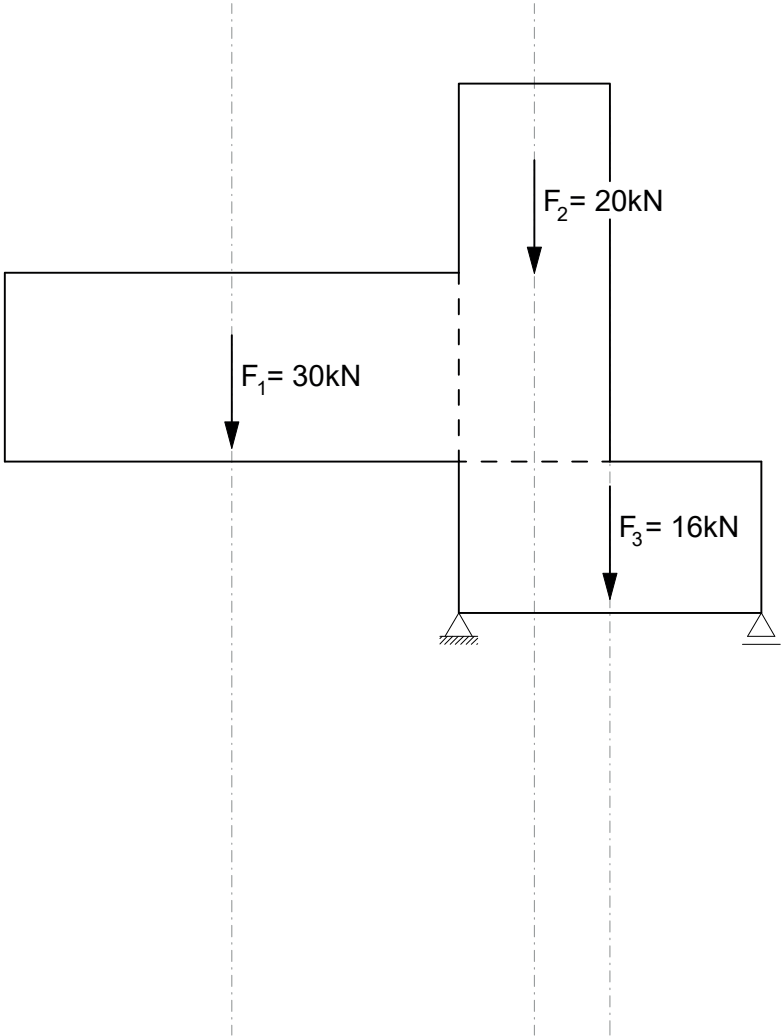


form diagram 1:100

force diagram 1cm \triangleq 10kN

Task 3 Reaction Forces

The given structure consists of solid blocks. Finde the resultand due to the given loads. How big are the support reactions A and B?



form diagram 1:100

◦

force diagram 1cm ≙ 5kN