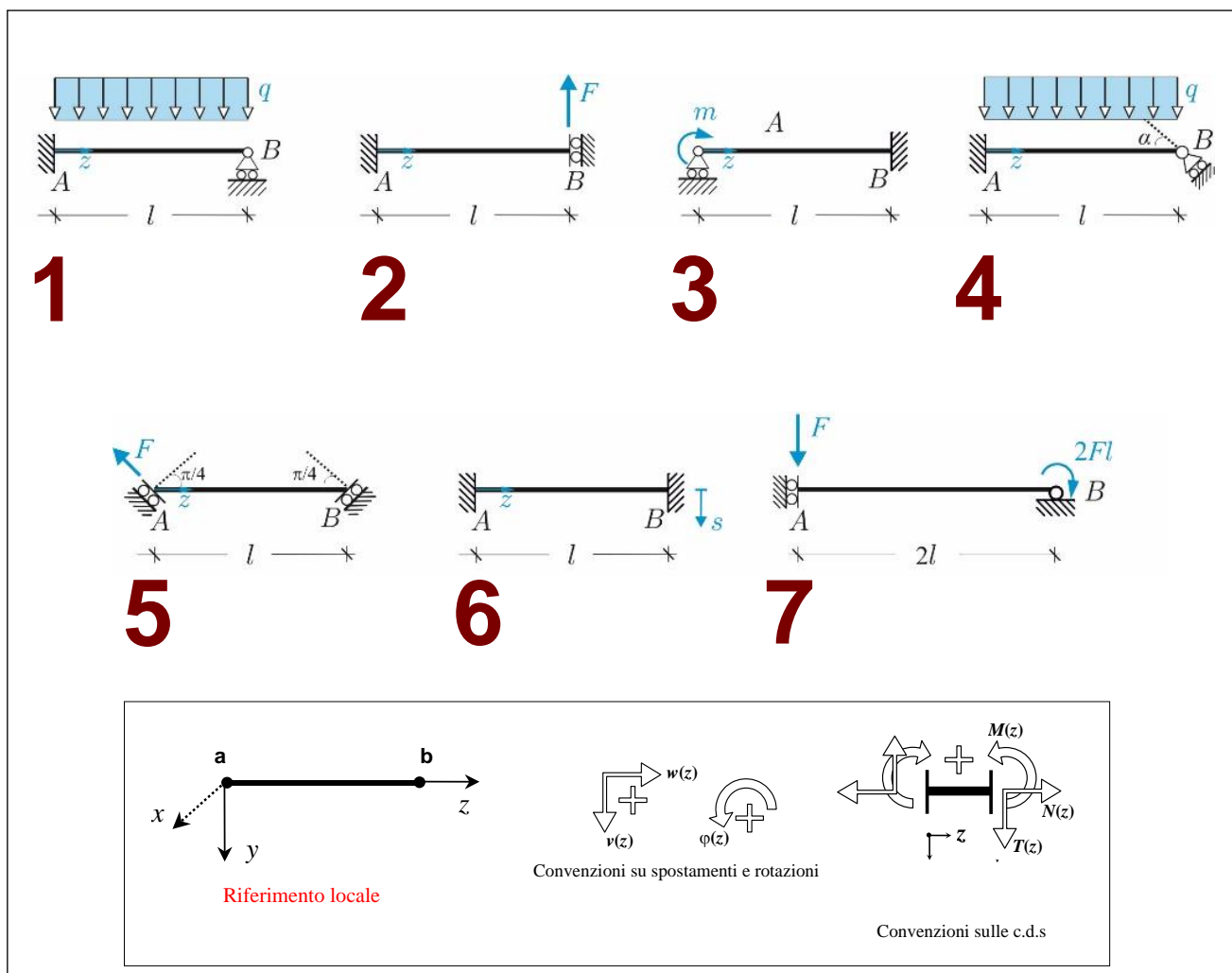


**(E14a) –Linea elastica 1/2**

**Problemi 1-7.** Per ciascuna delle *travi indeformabili a taglio* ( $\gamma=0$ ) riportate in figura: **a)** scrivere le equazioni della linea elastica con le rispettive condizioni al contorno; **b)** disegnare qualitativamente la *deformata* della trave; **c)** determinare le leggi di variazione dei campi di spostamento e tensione e tracciare i relativi diagrammi. Si assumano uniformi le rigidzze con  $EA=EI/l^2$ . Si ricorda che:  $N=EAw'$ ,  $T=-EIv'''$ ,  $M=-EIv''$ .



The figure shows seven beam problems (1-7) and a legend for conventions. Problems 1-4 are in the top row, and 5-7 are in the bottom row. Each problem shows a beam of length  $l$  with various supports and loads. Problem 1: Fixed at A, roller at B, distributed load  $q$ . Problem 2: Fixed at A, fixed at B, point load  $F$  at B. Problem 3: Fixed at A, fixed at B, moment  $m$  at A. Problem 4: Fixed at A, fixed at B, distributed load  $q$ , angle  $\alpha$  at B. Problem 5: Fixed at A, fixed at B, point load  $F$  at A, angle  $\pi/4$  at B. Problem 6: Fixed at A, fixed at B, point load  $s$  at B. Problem 7: Fixed at A, fixed at B, point load  $F$  at A, moment  $2Fl$  at B.

**1**                      **2**                      **3**                      **4**

**5**                      **6**                      **7**

**Riferimento locale**

**Convenzioni su spostamenti e rotazioni**

**Convenzioni sulle c.d.s.**

COGNOME.....  
NOME.....  
MAT.....

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Soluzioni: cap. 9, § 9.4-9.6 (4° edizione)