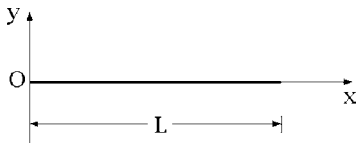
MATRICI D'INERZIA NOTEVOLI

• Asta rettilinea omogenea

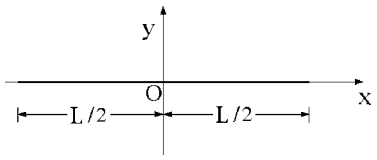
$$mL^2 \begin{pmatrix} 0 & 0 & 0 \\ 0 & 1/3 & 0 \\ 0 & 0 & 1/3 \end{pmatrix}$$



massa m, lunghezza L

• Asta rettilinea omogenea (terna centrale)

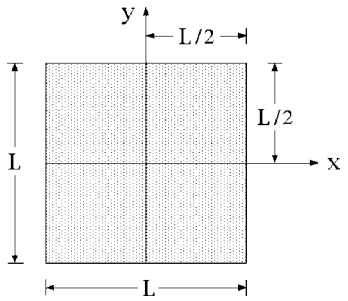
$$mL^2 \begin{pmatrix} 0 & 0 & 0 \\ 0 & 1/12 & 0 \\ 0 & 0 & 1/12 \end{pmatrix}$$



massa m, lunghezza L

• Lamina quadrata omogenea

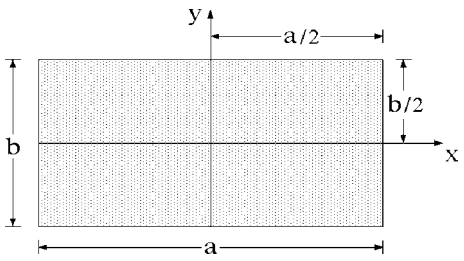
$$mL^2 \begin{pmatrix} 1/12 & 0 & 0 \\ 0 & 1/12 & 0 \\ 0 & 0 & 1/6 \end{pmatrix}$$



massa m, lato di lunghezza L

• Lamina rettangolare omogenea

$$m \begin{pmatrix} b^2/12 & 0 & 0 \\ 0 & a^2/12 & 0 \\ 0 & 0 & (a^2+b^2)/12 \end{pmatrix}$$

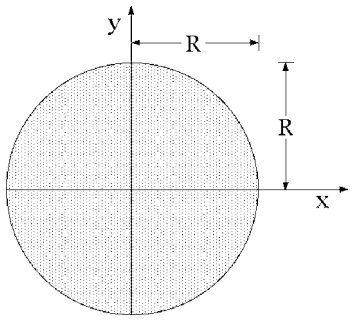


massa m, lati di lunghezza a e b,
rispettivamente paralleli agli assi Ox e Oy

• **Lamina circolare omogenea (disco omogeneo)**

$$mR^2 \begin{pmatrix} 1/4 & 0 & 0 \\ 0 & 1/4 & 0 \\ 0 & 0 & 1/2 \end{pmatrix}$$

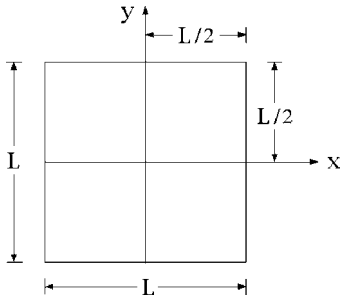
massa m, raggio R



• **Telaio quadrato omogeneo**

$$mL^2 \begin{pmatrix} 1/6 & 0 & 0 \\ 0 & 1/6 & 0 \\ 0 & 0 & 1/3 \end{pmatrix}$$

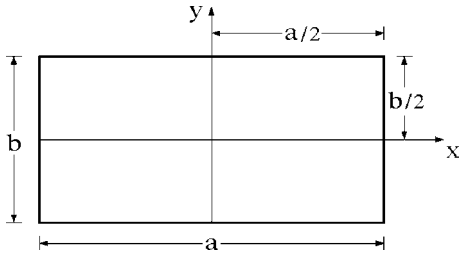
massa m, lato di lunghezza L



• **Telaio rettangolare omogeneo**

$$\frac{m}{12(a+b)} \begin{pmatrix} b^3+3ab^2 & 0 & 0 \\ 0 & a^3+3a^2b & 0 \\ 0 & 0 & (a+b)^3 \end{pmatrix}$$

massa m, lati di lunghezza a e b,
rispettivamente paralleli agli assi Ox e Oy



• **Telaio circolare omogeneo**

$$mR^2 \begin{pmatrix} 1/2 & 0 & 0 \\ 0 & 1/2 & 0 \\ 0 & 0 & 1 \end{pmatrix}$$

massa m, raggio R